The Hoggar
/Le Hoggar/

By Claude Blanguernon

B. Arthaud: 1955
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Translated from the French by Thomas Turner

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/Title Page/

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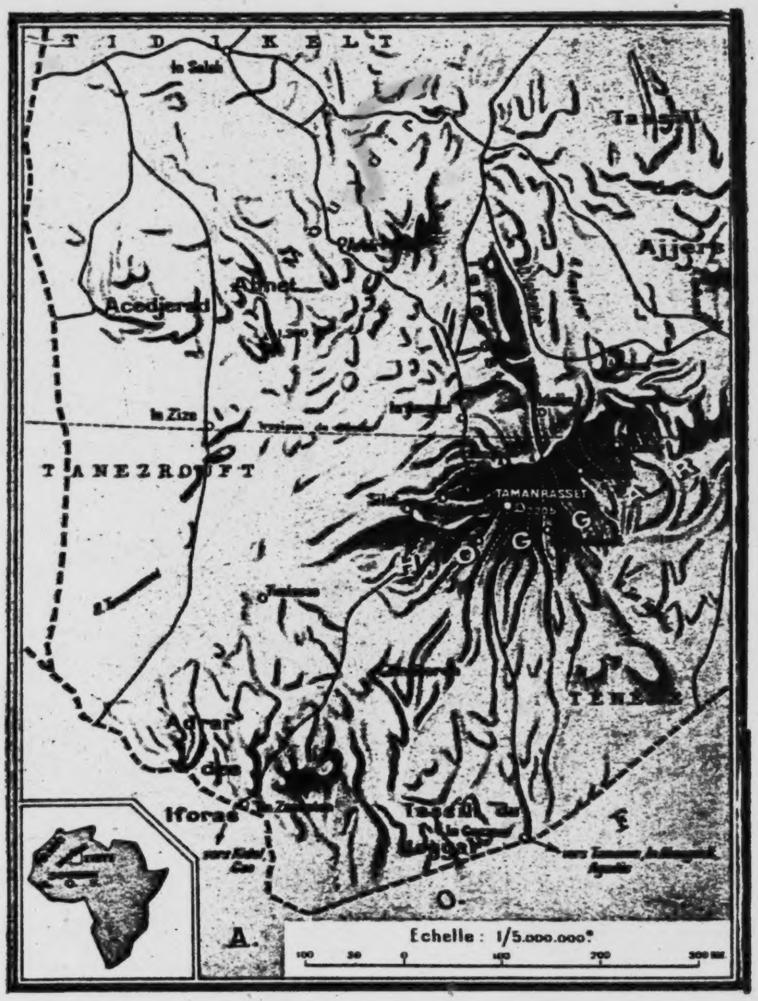
T I D I K E L T
In Salah
Tassili
Ajjers
Abnet
Acedjerad
In Ziza
T A N E Z R O U F T
TAMANRASSET
H O G G A R
T E N E R E
Adrar
des
Iforas
Tassili du
E
O.
A.
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[Frontispiece]

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/9/ Foreword

121 This work was begun four years ago with modest personal observations and was designed to remain at the Tamanrasset school as a record for the information of my successors.

Little by little I realized that Tamanrasset was not the Ahaggar and that many people upon arrival there had preconceived ideas about the country and its inhabitants. These ideas were often inexact and always incomplete. They were defended with the conviction of ignorance and with an often convincing energy; they spread all the more easily when cloaked in mystery and marvels -- and the country, being little known, lends itself to the marvelous. Attention must be called to an entire florid literature which paints the Ahaggar and the Tuareg with a profusion of epithets but which gives no exact information. It has had the merit, however, of getting many Frenchmen interested in this country, so attractive in so many ways.

For the past three years caravans of tourists have come regularly to visit the Ahaggar. Naturally enough the tourists ask numerous questions that the French of Tamanrasset know well and are tired of answering. I believed this work could enlighten the visitors and relieve the residents, who are weary of repeating the same answers.

This work is, of course, incomplete and certainly contains errors, but it has been prepared with all the objectivity I could muster.

/10/ I owe the geological data to M. Lelubre, and the notes on the climate to the Institut de physique du globe /Institute of Global Physics/. The different annual reports of the heads of the Ahaggar annex have furnished me with valuable information. Finally, many Tuareg friends have initiated me into their way of life.

Specialists in all the scientific disciplines come to study the Ahaggar. Their research often remains unknown to the public. I ask their indulgence for this work, which I have intended for travelers and tourists.

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6:Blanguernon--2 Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

/11/

I

The Ahaggar

131 The Ahaggar annex, whose administrative seat is Tamanrasset, covers an area of about 375, 000 square kilometers. It is bounded approximately by 1° and 8° east longitude and 19° and 27° north latitude. The exact boundaries are shown on the 1/1, 000, 000-scale map of the Sahara.

The Tropic of Cancer cuts the territory of the annex into two almost equal parts.

A glance at the quadrilateral in the 1/1, 000, 000-scale map shows an immense system of mountains, bounded on the north by the absolutely sterile plain, the Tidikelt, and on the southeast and west by the strictly desert plateaus of the Ténéré and the Tanezrouft.

It seems that the Ahaggar, isolated by its girdle of deserts, became a natural reserve, a world apart from the Sahara, aging alone and preserving some of its original character.

Its location relates the Ahaggar to the Sudan; the vegetation proves it and the population bears traces of it.

After having been a break between Algeria and Black Africa before the French occupation, the Ahaggar is now becoming a link between them.

175 648 Less than 70 years ago the Ahaggar was completely unknown. The existence of the /12/ Tuareg was merely suspected from tales told by the Arabs, tales full of error and lacking objectivity.

The advance into Tuareg country was provoked by repeated acts of pillage and destruction by the "blue" men, fierce, independent, and warlike.

The few dates to be found in the appendix show that the French advance into the country was slow and always marked by that humanity which, despite several attacks launched by the Tuareg, never ceased to be the constant concern of all the leaders.

133 /12 cont./ Beyond any doubt the country was destined to fire the imagination. This mass of mountains, rising below the northern Sahara, appears closed and hostile.

The deep gorges which traverse the tassilis /mountains/ are the doors to a region that seems to isolate itself from the world.

Leaving these somber gorges, one enters a domain of stone. Rocks are encountered in the strangest forms imaginable; there are immense domes of granite surging from a sand plain, or monoliths standing like a forest of dolmens; there are curious fissile schist formations, which seem like the leaves of some monstrous book. This landscape continues over hundreds of kilometers, unveiling a desert nature which adorns itself with the most extraordinary rock forms.

But the strangest is yet to be seen, the heart of the country: each valley there is an enigma; the volcanic crags which border the ravines seem to menace the intruder who dares to violate this domain.

The soil shows hues going from a delicate yellow to black, streaked with violet, green, blue, or pink veins. Jagged and smooth boulders pile up in indescribable chaos, and immense stretches of black and swollen stones seem to come from some devil's caldron.

114 The inhabitants once seemed to be as mysterious as the country which sheltered them. Their tall stature, their proud and disdainful bearing, and their faces veiled by the blue taguelmoust /veil/ were so many factors to stimulate the imagination. Stories circulated throughout the Sahara vaunting the warrior virtues of the Tuareg, their courage, their cruelty joined to a /13/ chivalrous sense of honor. They were, for some, the last of the Atlantes, for others, ancient Francs, whose sword in the form of a cross symbolized the lost faith.

However, little by little, explorers, administrative officers, scholars were to bring things into focus and to show the Ahaggar as it really is.

114 /13 cont./ The first clarification in the general knowledge of the region came from the reports of Barth and Duveyrier. Then followed the scientific works of Flamand, Maire, Reygasse, Kilian, Monod, Lelubre, Bordet, Follot, Dubief -- who laid the solid foundations for as exact a knowledge as possible of the country and its people.

The linguistic work of Father Foucauld portrayed in remarkable fashion the Tuareg and their language at the time he knew them.

Many explorers, notably M. Lhote, have left precise observations joined to personal impressions of the country.

Finally, the novel has spotlighted the Ahaggar, and for many of the French, *L'Atlantide*, that delightful fabrication by Pierre Benoît, furnishes the picture they have of the country. The last books of Frison-Roche also deserve a great deal of credit for the tourist movement which has begun to the Ahaggar.

Morphology and Relief

133 The mountain system which constitutes the Ahaggar seems, at first view, to lack coherence as an entity; its form is better seen upon closer examination. In order to have a schematic idea of the system, one can divide it into three large concentric zones: a central core, a peripheral trench, and the outside belt of *tassilis*.

In the center of the Ahaggar is an almost circular massif, a sort of plateau with an average altitude of 2,000 meters, spiked with peaks reaching nearly 3,000 meters: this is known to the Tuareg as the Atakor (skullcap). A rocky spur projects toward the north: this is the Tefedest, which reaches /15/ 2,327 meters with the Garet el Djenoun at its northern extremity.

Around the central core, a sort of circular depression, varying in altitude from 500 to 800 meters, forms an almost perfect crown in which rise, here and there, granite crags of volcanic remains.

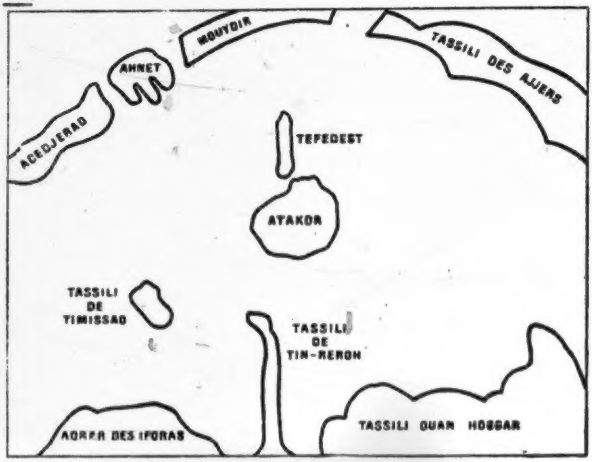
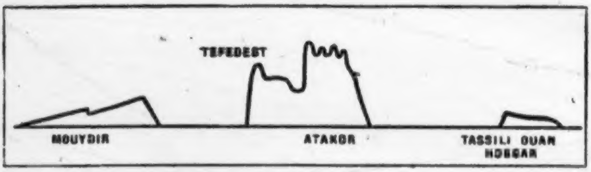

MOUYDIR
AHNET
ACEDJERAD
TASSILI DES AJJERS
TEFEDEST
ATAKOR
TASSILI DE TIMISSAO
TASSILI DE TIN-REROH
ADRAR DES IFORAS
TASSILI OUAN HOGGAR

Diagram showing the concentric morphology of the Ahaggar.


TEFEDEST
MOUYDIR
ATAKOR
TASSILI OUAN HOGGAR

North-south diagram of the Tuareg mountain system.

/15 cont./ Then around the central crystalline massif at an average distance of 200 kilometers is found a nearly continuous ring of plateaus, which form the outer belt of the Ahaggar. To the north is the Mouydir, then, going clockwise, comes the Tassili des Adjjer /Tassili des Ajjers/ to the east, the Tassili n'Ahaggar /Tassili du Hoggar/ to the southeast, the Tassili de Tin-Reroh to the south, the Tassili de Timissao to the southwest, and, to the northwest, the Acedjerad and the Ahnet, the latter of which borders the Mouydir.

The beds of just a few large quaternary wadis breach this ring of tassilis; they drain nearly all the waters of the Ahaggar. The Tamanrasset wadi disappears in a vast drainage basin north of the Adrar des Iforas; formerly, it must have joined the Niger at the Taoudeni basin. The Tafassasset wadi, which drains the eastern flank of the Ahaggar, now loses itself in the Ténéré; it must have been at one time a tributary of Lake Chad and not, as long believed, of the Niger. The Igharghar leaves the Ahaggar between the Mouydir and the Tassili des Adjjer; its course has been traced as far as the foot of the Aurès.

The Tin-Tarabin wadi drains the waters of the eastern slope of the Atakor.

The Ahaggar as a whole may be compared to an immense system of fortifications. The central massif would be the inner fort bristling with towers and falling off steeply to the surrounding moat. The tassilis, also with a sheer face toward the moat but sloping gently toward the exterior, would be the peripheral glacis. A north-south cross section brings out this defensive aspect of the Ahaggar.

The central core that the Tuareg call the Atakor (some translate this term by "middle of the mountains," others by "knot" where all the wadis originate) presents a /16/ gripping appearance of wild grandeur. It is a landscape bristling with vertical peaks about 3,000 meters in altitude, of which the Ilamane (2,823 meters) is typical. These are ancient volcanoes. They are thought to have thrown up a very viscous lava, which

133 /16 cont./ solidified almost immediately, a little like toothpaste leaving the tube when it is slightly squeezed. The usual volcanic cone is very restricted; the attention is drawn only by the vertical or spiral columns constituting the peaks.

Sometimes immense tabular mountains, such as the Adrar In Taraf'n or the Adriane, bear witness to the volume of the volcanic flows, and their different planes seem to indicate the contour lines.

One also sees, towering over the immense plateaus covered with lava, veritable fortresses of stone that give the most curious effect in twilight; the Aounahampt, the Akarakar, and the Takouft are the most characteristic of this type. This is the domain of wild sheep.

The Tuareg were impressed by this strange relief. The Ilamane, so pure andmajestic, rising in state, facing south in the middle of an amphitheater of splendidly hued mountains, might have been, in their legends, a god whose praises were sung by the granite organs all around it. But this warrior people, little concerned with religious subjects, imagined a love story which caused a quarrel.

133 773 Several kilometers west of the Ilamane are two mountains; the northernmost one, massive in form, is named Amdjer -- which, the legend says, was a man; the other, with a pointed summit, is named Tararat -- and Tararat was a woman.

Amdjer and Tararat loved each other. It came about that Ilamane also fell in love with Tararat. This passion was not, of course, well received by Amdjer, who reproached Ilamane. The latter, very violent by nature, struck Amdjer with his spear. Amdjer defended himself vigorously, fetching his attacker two mighty saber blows which completely convinced Ilamane that he shouldn't dispute Tararat with such a rival.... Since that time Amdjer and Tararat have been /17/ united by a chain, and the spear thrust which wounded the mountain is still visible; a spring flows from it as evidence that the wound has not yet healed. Ilamane, on each side of his summit, proudly bears the

133 /17 cont./ two gashes from the saber blows, a souvenir from
773 his youth of a duel of giants.

Some time after that incident, the peace of the Ahaggar was again disturbed. Ilamane fell in love with Tahat, who was a woman, but there was another suitor named Ti Hiyène. Fearing this rival and wiser by experience, Ilamane left the place where he had always been and settled down very close to Tahat, where he has remained ever since. Vexed at feeling himself scorned by Tahat, Ti Hiyène resolved to flee from the Ahaggar and go seek his fortune toward the Adrar des Iforas. He then left, going by way of the Amded wadi. Now, in the Amded wadi there was a mountain named Eheri. Eheri was brave, though peaceable. He respected the customs, and it did not seem proper to him that a mountain of the Ahaggar should thus leave his country for what was, all in all, a rather trifling reason. He left his place and planted himself squarely in the path of the runaway in order to bar the way. Ti Hiyène, informed of Eheri's gesture, doubtless learned his lesson, for he settled upstream, near the well of Tin-Dahar.

Since that time one may admire the Ilamane, fortunate conqueror, rising in state before the Tahat, and one may see his first site in the form of an immense circular crater which forms a depression to the west of the Ilamane wadi. Near the Amded wadi, a similar crater marks the former residence of Eheri. These circular depressions have long been enigmas to geologists.

"And the location of Ti Hiyène?" I asked Marly ag Amayas, who related this legend to me in detail. "Nobody knows it," he answered, "and this is understandable: when a man decides to leave after thinking it over, he moves quietly, thinking of his plans, and leaves no trace, while he who acts from sudden passion goes abruptly and leaves a deep mark on the ground."

133 A network of wadis separates these different summits, forming /18/ drops of from 800 to 1,000 meters. The upper valleys of these wadis are young and have a V form, true canyons out through the lava fields (Tarhoumout wadi). None of these wadis

133 /*18 cont.*/ has finished cutting its bed; they have rapids and sometimes waterfalls where they cut a passage between two Adrars. At these spots, the water stands in permanent pools called *gueltas*. Certain of these *gueltas* (Issakarassène, Afilal) contain fish and are surrounded by luxuriant vegetation that contrasts sharply with the aridity of the country.

This region of the Atakor strongly impresses the traveler with the unbelievable hues taken on by the mountains during the course of the day. The wild majesty of the mountains calls up an anxiety hard to dismiss when one is traveling along acacia-lined wadis, guided by a veiled Targui, silent and supple, mounted on a camel whose padded tread blends with the uneasy silence. The zone of the peripheral trench, in which the relief is not very marked, has large regions which are nearly flat and which are often covered with a thin layer of sand. Sometimes small massifs cut the horizon, or, to the side exposed to the prevailing winds, a dune looms up: the Adrar Bourzekal is an example of this. Sometimes granite hills in the form of perfect domes, polished, shining, and mellowed, seem to surge from the horizontal sweep (Tesnou, Iniker, Ahéléheg), or there may be a colossal accumulation of glittering blocks and of nearly geometric forms, which give an appearance of ruins to these *garas* /flat-topped buttes left through erosion/ 60 to 100 meters high, as at Iŋ-Tédéini, or near Ideles, or in the region of the Debna.

In this zone the wadis coming from the Atakor spread out to such an extent that one can no longer distinguish any definite valley: it is more accurate to speak of distribution basins in which the water brought down by rather powerful floods meanders along in no fixed pattern. The passage of the water is sometimes marked by dry grasses and some rare
[137] *tahlas* /*Acacia tortilis*/. One again finds a valley where the wadi breaches a rocky barrier by cutting a straight groove through it, and beyond there is another basin. The basins become larger and larger as the distance from the Atakor

133 /18 cont./ increases, for /19/ the tributary basins converge and form an immense flat plain called *aciaf* by the Tuareg.

Seen from afar the *tassilis* appear to be impassable barriers whose tops, eaten by water erosion and battered by wind, give the illusion of a fortified city. Eroding wadis have cut through these sandstone plateaus, and their deep valleys with vertical sides constitute savage gorges at the bottom of which a relatively dense vegetation contrasts with the aridity of the plateau, which is wholly bare and raked by the winds. Numerous *gueltas*, often fringed with *tahlis* (a kind of reed), are found in these *tassilis*.

[103] Note. -- A few altitudes:

Tahat	3, 003	meters	In the Atakor
Ilaman	2, 823	"	" " "
In-Taraïn	2, 762	"	" " "
Asekrem	2, 804	"	" " "
Tozat	2, 400	"	" " "
Akarakar	2, 216	"	" " "
In-Afilal	2, 157	"	" " "
Garet el Djenoun	2, 327	"	In the Tefedest
Ifetessen	1, 680	"	In the Mouydir

The Climate

132 Meteorological observations are regularly made only at Tamanrasset and only since 1929. There is a lack, therefore, of exact data for the whole territory. If it is known from Tuareg reports that it has rained in a certain place, the intensity of the precipitation is not known. The information concerning the winds and temperatures is still more vague. However, by taking into account the observations made at Tamanrasset and by examining the vegetation at different places in the Ahaggar annex, as well as the distribution of the fauna, one can distinguish three climatic zones, which correspond almost exactly

132 /19 cont./ to the zones of the relief. Let us note, however, that /20/ the tassilis of the south are subject to conditions of wind and rain different from those of the tassilis of the north. Before studying the climatic zones, it is well to sketch in the general characteristics common to all the zones.

The climate is generally of the continental desert type, due to the location of the country.

The Tropic of Cancer divides the territory of the Ahaggar in two; the sun mounts to its zenith, giving the country a Sudanese influence in the form of summer clouds which sometimes condense into stormy rains: "tornado tails." This Sudanese monsoon rarely manifests itself north of the Tropic.

In winter a fairly regular predominance of northwest winds makes possible the transport of Atlantic or Mediterranean rains, which rarely affect the south.

If we turn to consider the different climatic zones, we see that the Atakor is, because of its high peaks, the center of distribution for the waters which condense in the mountains when, by chance, the clouds are low enough. Cloud systems are relatively frequent and often large, but they seem to climb when they reach the mountainous region. The altitude moderates the summer heat, and winter brings light snowfalls on the summits nearly every year. [137] One sees only in the Atakor an outlying sample of Mediterranean flora, a wild olive tree: Olea laperrini. In descending toward the peripheral trench, one encounters the kranka (Callotropis proscera), an essentially tropical shrub. Then, at the border of the central mountains, one finds the fruit-bearing palm at Silet, Abalessa, In-Amguel.

Observations of the meteorological station at Tamanrasset have been used to make rain and temperature graphs, which may be found in the appendix. Information is lacking for the war period. The climate is characterized by the regularity of the temperature and the extreme irregularity of the rains. The heavy rains, however, nearly always fall in summer or winter; when there are rains in both of these seasons, there is a rainy

132 /20 cont./ year as in /21/ 1943: 108.5 millimeters of rainfall; when, on the contrary, atmospheric conditions prevent the Sudanese tornadoes and the Atlantic winds from approaching the Ahaggar, there is a dry year as in 1945: 28 millimeters of rainfall, or as in 1949: 9 millimeters.

In view of the insufficient number of meteorological stations and of the enormous distances which separate them, it is impossible to follow the evolution of the cloud systems or to predict periodic rains.

At Tamanrasset the winds are fairly regular; in the morning the prevailing winds range from east to northeast, and in the evening from west-southwest to west-northwest.

In winter the prevailing winds bringing rain are mostly from the northwest, coming from Moroccan depressions.

In summer the rains come with southwest winds, probably originating in Sudanese cyclones.

Sandstorms are not seen, but there are rare dust storms, particularly in March.

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821 In calm weather, or even during violent winds, whirlwinds occur. There have been different theories advanced to account for them, but for the time being the question is still open. The Tuareg have their opinion as to the cause of the whirlwinds; they are manifestations of genii, the Tuareg say. Here, moreover, is a story proving them right:

One sunny afternoon a Tuareg woman (others have told me that it was a Negress) was gathering wood in the ravine of Itharentidjarnin when a violent whirlwind materialized about 100 meters away. The dust began to revolve, describing an almost perfect circle, then mounted vertically, turning faster and faster. When the dust column had reached a great height, the whirlwind began to move. It started slowly, hesitating about which direction to take. Finally, it moved southward, spinning, rolling from side to side, and whistling cheerfully. The woman, entranced by this spectacle, showed her delight by loudly crying, "You-you." The whirlwind approached her, tossed her some gold, and thanked her for being merry, for, the whirlwind said, "One of us is being married."

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821 /22/ The elders of the camp, to whom the woman related this adventure, said it was really the first time that the Kel es Souf had ever been agreeable.

Some time later the same woman, at the same place, saw a similar whirlwind. Hoping to be rewarded again by the genii, she saluted the whirlwind with gay "you-you" cries as it passed. She had cause to rue this; she was seized, swept from the ground, whirled to an unbelievable height, then abruptly let go to crash on the ground. As she fell, the Kel es Souf told her: "We are in the funeral procession of one of our kind; this is your punishment for mocking us." The woman was found with all her limbs broken. She told her story and died.

132 The climate of Tamanrasset, which at first seems agreeable because of the mild temperature, is enervating in the long run; this is agreed to by everyone who has lived there a certain length of time. Intellectual work is very tiring. Father de Foucauld tried to settle down at the top of the Asekrem, but found he couldn't work there as hard as he could elsewhere. The extreme nervousness that seizes men, and particularly women, after a long stay is also noticeable. What causes these troubles? Doubtless they are due to the combined effects of the altitude and the extreme dryness of the air. Some ascribe them to magnetic effects, and others blame radiations. (1) In point 132

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1. I once made a curious observation: two years ago I was collecting different rocks, which I tested with a Geiger counter. I marked on each rock the number of "clicks" per minute. One morning I wanted to test my samples. All my rocks were more radioactive by 25 "clicks." By chance, I was

132 /22 cont./ able to report this anomaly
133 to Father Bordet, a geologist come to study volcanism in the Ahaggar. He suggested cosmic radiations, but, not being a specialist in this field, he affirmed nothing, merely noting the information in order to pass it on to a qualified person.

132 of fact, no satisfactory answer has been found.

A second climatic zone is found in the peripheral trench. This region, situated at a lower altitude, has higher temperatures and much less rain. Vegetation is nearly nonexistent there; even in the wadis, the tahlas /see Appendix, Flora/ are not numerous and the morakba /Panicum turgidum/ is /23/ nearly always dry. The kranka no longer is found, nor is the éthel, /see appendix/, and the true Saharan climate reasserts itself, leading to the complete desert of the Tanezrouft and the Ténéré. The gazelles avoid the center of this region; they approach the more humid mountainous country according to the frequency of the rains which nourish acheb (pasturage).

Lastly, in the tassilis a distinction must be made between those in the north and those in the south.

The tassilis of the north receive winter rains nearly every year, and, more rarely, get precipitation coming from the Sudanese monsoon. Information on these regions is not plentiful and is inexact, except concerning the Mouydir, which is crossed by the route from In-Salah and flown over by airplanes from Algiers. It appears from reports of the Tuareg that the Mouydir receives more rain than the Ahnet and the Acedjerad, which seems reasonable because of its greater altitude, and perhaps also because of a system of atmospheric depressions which are suspected but which have not yet been studied.

132 /23 cont./ The kranka reappears, a sign of less aridity; the tahlas are fairly dense in the wadis; the gueltas /pools/ rarely dry up and are bordered with berdis /Formium tenax/. The wild sheep is a permanent resident of the summits.

There is still less information about the tassilis of the south. Facts are almost nonexistent for the Tassili n'Ahaggar. There is information given by the Tuareg about the Tassili de Tin-Reroh and the Tassili de Timissao, which are situated on caravan routes coming from the Adrar des Iforas toward the Tidikelt or the Ahaggar. They chiefly report summer rains, and rains abundant enough to engender acheb /pasturage/.

These tassilis receive little water from the "tornado tails" because of their medium altitude. However, it rains in the summer nearly every year. The wells of Tin-Reroh and Timissao are never dry. The Tin-Reroh guelts /pool/ sometimes is.

Although not a tassili, the northern border of the Adrar des Iforas has the same sort of climate. This section is of vital importance to the Tuareg of the Ahaggar, who /24/ graze their she-camels there. Summer rains occur regularly; the Sudanese monsoon causes periodic floods. The gueltas in the wadis fill up in the summer and may still have water when the next floods come. Gergir provides abundant pasturage; it lasts nearly all year. Ethel and tamarisk are dense in the wadis, and tahlas begin to grow on the hillsides. The flora of the wadis is more varied. Gazelles are plentiful; one sees Robert's does, oryx and addax antelopes. This is certainly the most favored region in the territory of the Ahaggar annex, but geographically it is already the Sudan.

Water in the Ahaggar

133 As in every desert region, the question of water is of pri-
312 mary importance. The Ahaggar is relatively favored by rains.
[132] Water points are numerous in the mountainous regions of the

133 /24 cont./ central core and of the tassilis. From this point of
312 view, then, it is easy enough to travel through those regions. But it is an entirely different story for the zone between the Atakor and the tassilis.

Wherever there is water, the landscape in the Ahaggar is transformed; an intense animal life develops; around the water points grows vegetation that seems luxuriant in contrast with the rest of the country. This thin trace of life has something touching about it, something timid and intimate in comparison with the grandiose face of the desert.

As a result of the crystalline nature of the soil, there is no artesian water table. The only hope of finding water is in the wadi beds, under the alluvial deposits, at depths varying from .20 to 15 meters. Occasionally, when the water table under the wadi is abundant, it flows out freely at a rocky shelf which forms an underground dam; such an outflow is called tiggert in Tamashek. When after a tiggert water accumulates in rock basins and the "potholes" of the rapids, there are gueltas (aguelmam in Tamashek) in which live fish and an entire aquatic fauna. As far as I know, there are only rare /25/ springs in the Ahaggar: we may cite the Chapuis spring near Tamanrasset, which flows from the granites of the Adrar Haggarène. Limestone deposits in certain wadis of the Tahalra permit the supposition that thermal springs may have existed formerly.

Nearly all the wadis originate in the central Ahaggar, the zone where the water is distributed. Two very large quaternary wadis, the Igharghar wadi and the Tamanrasset wadi, drain the waters of the west and north. The Tin-Tarabin wadi and the Tin-Amzi and Zazir wadis take the waters from the south and southeast slopes toward the Tamesnar, in the Azaouak wadi, a tributary of the Niger.

The Ahaggar wadis appear as a succession of basins descending from the summits like a giant staircase whose upper steps receive the water which sustains the only permanent vegetation of the country and which permits man to exercise his ingenuity

+33 /25 cont. / in creating gardens. The lower steps, which spread out enormously, are dead to all sedentary life.

—312 The Tamanrasset wadi affords a typical example of the Ahaggar wadi. Its source -- or more exactly, its head -- is at the Asekrem, nearly 2, 765 meters high; its mouth, that is to say, the last drainage basin, spreads out and loses itself in the Tanezrouft, at an altitude of 400 meters. Its present length is approximately 750 kilometers; if, in the quaternary period, the Tamanrasset wadi emptied into the Taoudéni depression, it must have measured more than 1, 400 kilometers. The descent in the upper part of its course is very steep, for at Amsel, 160 kilometers from its origin, the altitude has already dropped to 900 meters.

From its source down to Amselka, or about 200 kilometers, one may say that the Tamanrasset wadi is living: it has a distinct valley, the passage of the water is clearly marked; one sees terraces with clear-cut borders, and the valley is often cut in V shape. However, certain basins, such as the one at Tamanrasset (the village) give a preview of the large drainage zones downstream, evidence of a former, more humid epoch.

/26/ The description of this part of the wadi is merely an enumeration of the transversal valleys it cuts across; each of these has a corresponding rock shelf which is at the end of each basin.

In following the descent south of the Asekrem, one goes along a drainage trough which, after a kilometer, has already cut a ravine with sharply vertical sides from four to five meters high. The course then spreads out very wide, then comes a 20-meter fall into a basalt corrie with vertical columns reposing on the alluvial deposits; the valley continues, forming a canyon 60 meters wide and 30 meters deep. At this point the wadi takes the name "Tarhoumout"; it crosses a transversal valley after Mount Oul, the rocky shelf crops out, and abankor /water holes; are dug here.

133 312 /26 cont./ The wadi runs toward the south, then turns eastward: there is then a series of rapids in a gorge where the permanent *gueltas* of Lundien are found. Then there is a new bend to the south, the valley runs along the Akarakar, narrows, and there is a new rock shelf and the *guelta* of Ifelouen.

The wadi leaves the Atakor in cutting a passage between the Isekram and the Ahounahampt. It empties into the site of Tamanrasset, where it widens, takes its final name, and receives its first important tributary, the Irharhar Tekecherouet, in which are found the "grand *gueltas*."

By the Iharen peak the rock is grooved in a corridor 15 meters deep and one or two meters wide for about 200 meters distance. Afterward the wadi is 400 meters wide. *Foggaras* /subterranean channels dug to tap underground water/ are dug in its bed; they irrigate the gardens of Hadriane and Tamanrasset, and of Tihegouine, a small agricultural center a kilometer downstream from Tamanrasset.

The valley soon widens but remains hemmed in, then narrows again at Tagrambaït, where a garden nourished by a *foggara* is found a little before an outcropping of rock. The valley then widens once more and reaches 600 meters across.

From this point on the wadi is always very wide, but it is dead. It runs toward the south, then, at the slight narrowing at Timguiaouine, it turns sharply toward the northwest. This may be a case of a former capture.

/27/ The valley becomes immense, the rock shelves are no longer perceptible; former water reaches are suspected where the wadi passes between two hills, but the course has the appearance of an absolutely flat and sterile reg, except toward the middle, where the presence of a few tufts of dried *afazzou* /*Panicum turgidum*/ shows that a modest trickle of water sometimes reaches this zone. Near a *gara* /butte/ encircled by pre-Islamic tombs, the Adjelman wadi meets the Tamanrasset wadi, but its waters cannot pass through because a barrier of dunes blocks its mouth. The Adjelman, which is four kilometers wide

133 /27 cont./ at this place, will have a closed basin from now on. One cannot imagine a flood powerful enough to sweep away 3/2 the sand-dune system which plugs the confluent.

Up to the Tassili de Timissao, the wadi appears to stretch out as far as eye can reach; it may be from 20 to 30 kilometers wide. It is a magnificent reg over which vehicles drive as if on a highway.

A few tahlas dot the course toward the center of the valley; dry stalks of gergir bear witness to a more humid time of long ago.

The confluent wadi Amded is obstructed by a large dune system; here again is a case of a large tributary having an independent basin, and its waters can no longer pass the sandy barrier which blocks their access to the Tamanrasset wadi. However, the Amded has vegetation up to its mouth during a wet year, such as 1950; at the very end of its course I have seen tufts of "had" and a few green tufts of morakba.

I have not personally followed the Tamanrasset wadi beyond Timissao; I have only the information supplied by the Tuareg, chiefly by the Kel-Ahnet.

The Ilafer wadi empties into the Tamanrasset wadi. Their junction forms an outsized flat, an immense sebkha, the final outlet for waters from such a flood as would be inconceivable in the Ahaggar at this time. Up until this point the course of the Tamanrasset wadi has been unobstructed, but, a little east of one degree longitude, it comes up against the Egtelis Erg. This is the present end of the wadi.

I have not be[illegible]ble to obtain any information about the extreme downstream course; it would require painstaking surveys to mark /28/ the ancient quaternary course, which is thought to have gone toward Taoudéni.

The flow of the wadi depends on the rains in the central Ahaggar, which is to say that it is extremely irregular. When, by chance, its upper tributaries -- including the Ajemet wadi -- are flowing, the water may reach to the low flats as far as

133 /28 cont./ Timissao, or so the Tuareg tell me, although I have
312 never been able to determine when such a phenomenon last occurred. In 1948, I witnessed a flood; ten millimeters of rain fell in twelve minutes at Tamanrasset, but it was impossible to tell how hard and how long it rained in the mountains; four hours after the rain, the waters arrived like a rising tide, pushing the light detritus and, in effect, cleaning the wadi. At the end of a quarter of an hour, the water in the wadi measured 200 meters across; one could still cross the current with the water halfway up the thighs, leaning sharply to counteract the force of it, and a number of little pebbles could be felt pelting the legs. The flood lasted five hours. It reached only to Amsel, and only the tributaries above Tagrambaït were flowing. This flood, which, seen from Tamanrasset, appeared so considerable, resulted in only a slight infiltration of water, for the underground water level had only an insignificant rise.

Other than in the system of living and dead wadis, of which the Tamanrasset is only one example, water is found fairly deep under ground in the tassilis and close to them, due, no doubt, to the permeability of the sandstone.

312 Men may, then, obtain water for their use in several ways. The Tuareg know how to find, near the rock shelves and upstream of them, the place to dig down from 20 to 50 centimeters with a menassa /copper basin/ until the water seeps out: this type of water point is called an "abankor." The true well, the large one found along the caravan trails, is called "anou" (plural: "ounan").

The presence of these large wells is signaled from very far away by large redjems on the hills. Many paths seem to converge on a mysterious point; the nearer one approaches, the denser becomes the network of paths; then appears /29/ a vast trampled circle, strewn with camel droppings, and in the middle of this circle is the well.

The Tuareg have another name for the well used to irrigate the gardens: this is the "tanout" (plural: "tounin"). These

312 /29 cont./ shallow wells are found in agricultural centers; generally, they are upstream from the rock shelves. The water is drawn by men or, most often, by an ox, in which case a rudimentary scaffolding supports a pulley by which a goatskin full of water may be drawn up and dumped into a basin by an ingenious system.

The last method used to tap underground water is the foggara, called by the natives the "efeli" (plural: "ifelan"). The foggara is used only to irrigate gardens; we shall see how it works when we study agriculture.

Flora and Fauna

137 [114] The flora of the Ahaggar is more varied than that of the northern Sahara. The work of M. Maire constitutes the basic study one should refer to for information on the spontaneous vegetation. The list of plants given in the appendix was established by questioning the Tuareg in order to learn the varieties most often encountered. Very incomplete as far as herbaceous vegetation is concerned, this enumeration includes the vast majority of trees growing naturally.

There is no forest in the Ahaggar. However, information from the Kel Immidir Tuareg makes it possible to suppose the existence of a wooded stretch in the Ifetessen massif, a region still not thoroughly explored in its entirety. Perhaps it may merely be a case of wadis covered with a particularly luxuriant vegetation. In the Ahaggar almost all the flora grows in wadis. A few plants also grow on the most watered high summits, and, at the time of particularly propitious rains, the regs are covered with patches of acheb /pasturage/, which resemble a thick, sprouting beard.

The distribution of the spontaneous flora in the Ahaggar obviously /30/ is related to the climatic zones we have already discussed. There are some plants which are peculiar to a specific zone, while there is an interpenetration of most of the other vegetation.

137 /30 cont./ In the central Ahaggar, the Atakor, and the Tefedest, a zone of high elevation, one sees plants of Mediterranean origin, such as the wild olive (Olea laperrini) and the oleander. Artemisia and the "takamezout" of the Tuareg are also characteristic of this region.

At a lower level, in the zone which surrounds the central massif, the Sudanese influence is manifested in trees and shrubs such as the thora, the tebourak, and various kinds of acacias, the tabrakat and the morakba. One also sees there Saharan plants: the palm, the fersig, the drinn. And there are some traces of the Mediterranean influence: artemisia, oleander, and reeds. In brief, it is a zone of transition.

The vegetation of the peripheral trench is purely Saharan: a little acheb grows on the regs when it rains; the drinn, the had, and the guetaf invade the wadi beds. One also finds, here and there, morakba and a few tahlas.

The tassilis of the north, with their humid and well-boxed-in wadis, have a flora with Sudanese affinities along with Mediterranean and Saharan plants, while in the southern tassilis and the Adrar des Iforas the influence is very clearly Sudanese. In these latter two regions, the tahlas, still scattered, grow on the slopes outside of the wadis. In the wadi beds, one sees numerous tebourak, some thoras, tabrakat, and various acacias. The morakba grows abundantly in the small ravines as well as in the large wadis. Lastly, a luxuriant growth of gergir, reminiscent of the prairie, covers the wadis after it rains.

In the region of high altitudes, one sees mosses and lichens, as well as mushrooms. After rain, terfes (Saharan truffles) develop.

Near running water, one notes the presence of a special flora: mosses and lichens, false mint, reeds, rushes and tahlis, and couch grass grow profusely. The water itself contains algae and various aquatic plants.

136 /31/ The diversity of the flora would lead one to expect a great variety of fauna. Saharan animals do, in fact, live

136 /31 cont./ next to those habitually found in Mediterranean zones or on the Sudanese steppes. Some are frequently found in the Ahaggar or are often spoken of by the natives.

The gazelle (alenkad), a small, elegant, delicate animal, is found almost everywhere, from the first spurs of the Mouydir up to the frontier of the Niger. It likes pastures of alommoz, a small grass that quivers in the slightest breeze; this is why gazelles are particularly numerous in the Tin-Zaouaten region and in the wadis bordering the Tanezrouft. At certain times of the year, it is not unusual to see herds of 50 head.

[224] The gazelle is protected by hunting laws, but it protects itself even better by avoiding the regions inhabited by man. Because of this, the number of these animals seems to be almost constant.

Nearly all the mountains of the Ahaggar harbor wild sheep (oudad). This splendid animal, characteristic of the country, haunts all the peaks, even those seemingly inaccessible.

136
224 The Tuareg formerly hunted wild sheep with spears; they now use rifles. A small tribe, the Ibardjien, were specialists in this sport; with their dogs trained for this work, the men tracked the game and dispatched it with spears. This tribe is dying out, and this type of hunting will disappear with it. The Adjouh n'Téhélé and the Dag Rali kill a few animals during the year, either with rifles or by trapping them with a noose tied to a log.

136 It is difficult to determine with any degree of accuracy whether the number of wild sheep is increasing or decreasing.

There are practically no antelopes still living in the Ahaggar; only a few rare individuals ascend the valleys of the Adrar des Iforas and are seen at the edge of the southern tassilis.

The most widespread of the carnivores is the jackal. One sees it everywhere, on the lookout for wounded gazelles, following the tracks of small animals, avidly eyeing the herds /32/ of goats. The presence of this animal is a veritable nightmare for the young mountain shepherds.

136 /32 cont./ A cruel fox, smaller than the jackal, is sometimes found in the sandy regions of the great regs or at the approaches of the tassilis. This is the fenec.

No doubt the most curious animal of this region is the cheetah, or amayas. One rarely sees more than its tracks, and it is very hard to encounter. The cheetah is a true nomad, which hunts over enormous distances.

The Tuareg highly prize its skin, with which they ornament their saddles.

The striped hyena is rather rarely seen in the Ahaggar. It is more numerous in the tassilis and in the Adrar des Iforas.

In the mountains and, above all, close to agricultural areas, wild cats abound. These are handsome animals, the size of a very large domestic cat. Voracious and cruel, they play havoc with the poultry of the harratin /the Negro group which does the gardening/.

The Tuareg often speak of a wolf that was seen in times past in the Ahaggar. The folklore also speaks of a ferocious animal, the cynhyena, which lived in packs. (Colonel Augièras reports that bones of the cynhyena have been found in the Timissao region).

Small rodents are found in great numbers in the pastures. Hares and rabbits feed on aromatic herbs which give their flesh a peculiar flavor.

Rats of all sizes and countless mice are found near the tents, and they often damage the leather sacks in which the grain is kept. The tilout, a rat with no ears and with very long, pointed claws hides among the rocks of the Atakor. Another curious animal, the daman, lives in packs among the great granitic rubble. According to scientists, this animal may be related to the rhinoceros, for the female has a linear placenta. It is about as big as a large rabbit and is exceedingly timid.

All the pasturelands of the Ahaggar teem with birds which eat the grain, above all the gergir. Thousands of them may be seen taking off when one crosses a prairie.

136 /33/ Near the water points, numerous insect-eating birds seek nourishment. Let us mention in particular a gray swallow which lives the year round in the Ahaggar, and a charming black and white bird, the *moula-moula*, which is considered [825] a messenger by the Tuareg and which accompanies travelers, rapidly becoming very tame.

At Tamanrasset, Bengalis (*mange-mil* /literally: "eat-millet"/), imported from Agadez, breed rapidly and populate the gardens, which they ornament with their red plumage.

Crows are seen almost everywhere. Vultures soar very high, so high, say the Tuareg, that the sun burns their head feathers, and when an animal dies in the desert, the rapacious birds arrive mysteriously from "nowhere."

Falcons and buzzards circle over the pasturelands in search of food.

Reptiles abound in the Ahaggar. Snakes and vipers live in and around the wadis, burrowing among the clumps of thorny vegetation and tree roots. The Tuareg fear everything that crawls. Several types of vipers (*tachilt*) live in the Ahaggar; some are gray, others tawny (horned) or spotted. One may encounter, but rather rarely, a sort of cobra called *hench-lefel*. Some snakes grow to be more than a meter long.

Lizards of all sizes live in the most desolate places. One kind, small, sand-colored, flees terrified at the approach of man in the wadis and on the regs.

The *dob* prefers rocky places. With its large, spiked tail, this animal has an antediluvian aspect. It plays a very important part in Tuareg stories. Children play with it as with [262] a toy. Its flesh, considered edible, is far from tasty.

The uran, a large gray lizard, possesses a redoubtable weapon in its long, flexible tail. The Tuareg call it their [825] maternal uncle and ascribe to it dauntless courage. It is said that the uran attacks nobles but /34/ refuses to fight Negroes; [262] the latter eat the flesh of the uran, having no kinship tie with it.

136 /34 cont./ A green lizard with a red head is often glimpsed on the rocks: this is the *materter*. It seems to be saying a continual prayer, nodding its head up and down. The Tuareg [825] claim that its bite is fatal but are contradicted by zoologists on this point.

Large numbers of toads live in the irrigation ditches; tadpoles are found in nearly all water points.

The large *gueltas* /pools/ such as Issakarassène, Afilal, Amguid, Arak, etc., contain fish: *barbus sahari*. These barbels run the risk of disappearing during violent floods.

Some water points, at Tamanrasset in particular, are stocked with gambusia, useful for eating mosquito larvae. Some say that the In-Outer *guelta*, situated upstream in the Tit wadi, once was inhabited by a crocodile. This claim is not to be rejected a priori if one considers the discoveries made in the Ajjers /Adjjer/ of "residual" animals.

Insects are clearly the most important of the Ahaggar's fauna. They are found everywhere, even in places which seem totally devoid of life.

Beetles are the region's largest insects; they leave orderly little dotted tracks on the sand. A green beetle, the *zembabar*, looks truly ornamental.

The *ankokar*, a large poisonous wasp which frequents the vicinity of water points, inflicts dangerous stings; the Tuareg fear it and say that several stings may cause death.

Ordinary flies are the best adapted animals in the Ahaggar, as in all the Sahara. They swarm at agricultural centers, where they are carriers of eye diseases. When one halts on a barren reg, it is a surprise to find oneself surrounded by a cloud of flies, come from heaven known where.

Butterflies fly around the gardens and pastures; moths describe thousands of ellipses around the lamps.

/35/ Ants of all sizes, ticks, mantes, dragon flies, mosquitoes, termites, and many other small insects fly and

136 /35 cont./ circle everywhere, among the plants of the wadis, around the rocks in the mountains, on the trees, and in the guemouns /cultivated squares/ of the gardens, as well as near the water points.

The gueltas harbor an entire, very varied, aquatic fauna; the moist soil shelters a quantity of insects, larvae, and worms.

Lastly, scorpions are encountered almost everywhere, yellow or black, small or large. The Tuareg fear them. It appears, however, that the sting of the Ahaggar scorpion is not fatal; it causes a high fever, varying according to the individual victim, the time of the year, and the amount of venom injected.

To my knowledge there is no any complete scientific study of the Ahaggar's fauna.

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II

The People of the Ahaggar

172 One can say nothing very exact about the origin of the present populations of the Ahaggar, and less still on that of the populations of past centuries. However, we may be permitted to sketch a picture, a rather hypothetical one, of what the Ahaggar could have been in the remote past, although it is not possible to assign any certain chronology to the different periods.

The only positive knowledge we have of the prehistory is furnished by collections of tools, by the study of rock figurations, by results of excavations of pre-Islamic tombs, and by geological and paleoclimatological contributions. The oral traditions handed down by the Tuareg are not of much use, for they are rare and deal largely in myths.

172 /37 cont./ Many chipped stones have been found in the Ahaggar, indicating an early occupation of the region, but nearly all of the objects have been found on the surface, preventing the establishment of a chronology. However, Acheulian axes have been discovered by M. Arambourg in a basin of the Tihodaine erg beneath undisturbed sediments, with fossilized elephant bones. The In-Guezzam basin has also furnished paleolithic tools in association with fossilized bones. Objects of neolithic make are, in general, scattered on the ground.

/38/ Arrowheads are very rare. The most numerous tools are polished, two-edged axes; they are found in all sizes; some very small ones are made of very soft stone, and perhaps were used for money. Magnificent polished pestles, varying in length from 15 to 70 centimeters, are still sometimes used by the Negroes. Also to be found are polishing tools, fixed grindstones, scrapers, and the debris of pottery with linear decorations.

Some interesting information is furnished by the rock engravings. One may say that the Ahaggar is covered with them. At the present time, nearly 120 sites are known, and there are certainly others to be discovered; on the other hand, rock paintings are infrequent.

An examination of the engravings shows a succession of periods. The oldest are characterized by the presence of fauna found in humid steppe regions: elephants, lions, ostriches, giraffes, antelopes, bovids, horses. The most recent are identified by the presence of camels, asses, and crude line drawings of men.

[532 212] Contemporary engravings, accompanied by inscriptions in tifinagh, are easily recognizable, for the legends may be translated.

The rarity of paintings in the Ahaggar is explained by the almost total absence of caves permitting their preservation. Those that have been discovered were found in sheltered places

172 /38 cont./ in granitic regions. The tassilis, which have genuine caves, have not yet furnished us with any paintings. The most famous paintings are those in the Tefedest: at the Coche and Cousin-Lelubre sites. Another site, discovered in April, 1951, by M. Bobo in a valley of the Adrar Haggarène, adds a new element for the Ahaggar in that its figurations are different from those of the Tefedest.

The oldest engravings, which are termed "pre-cameline" for want of more precise references, have a considerable patina; the patina of some seems identical to that of the rock. We find perfectly drawn animals, /39/ sometimes in a dynamic posture; the line is precise, often deep in spite of the hardness of the base rocks (microgranites, basalts, etc.); sometimes the drawing is filled in in spots. Bovids and horses, although certainly ancient, have a less heavy patina than do the elephants, giraffes, and lions. Certain horses seem to be drawn less surely; it seems that one sees a decadence of the rock art which announces the following period. In addition to animals, there are enigmatic drawings, tracks, human figures; some animals are striped with parallel lines.

Next comes the "cameline" period. In addition to camels, there are also frequent asses and horses, as well as stylized men drawn with a maximum of three strokes. All of the drawings are summarily done and are without artistic interest; the line is often imprecise and there is almost no patina. There are also some scarcely comprehensible figures, some outlines of nails /sandals/, and a few ostrich silhouettes. The Tuareg are unable to translate the inscriptions in tifinagh characters.

[532] Contemporary engravings are rather rare. They portray asses, camels, and are of no interest whatsoever, except to illustrate the fact that men have been attracted to the same places, as these engravings and inscriptions overlap older ones.

Tombs of different forms are scattered throughout the Ahaggar. They are found practically everywhere, and no

172 /*39 cont.*/ conclusions may be drawn from the presence of pre-Islamic tombs near sites of rock drawings. The Tuareg call the pre-Islamic tombs "*debni*" -- "*idebnan*" in the plural. The most frequent type is a tumulus with a diameter of about four or five meters, but much bigger ones exist, and some even have diameters of 20 or 25 meters. Sometimes the tumulus is isolated, but most often there are three or four *idebnan* together, and it is not unusual to find veritable necropolises. If a great many sepulchers are found near the most watered wadis of the Ahaggar, there are also /*40*/ many at more remote points: in the Tanezrouft and the Ténéré, where there is absolute desert at the present time.

Chouchets are less numerous than the tumuli, although very numerous. Quite well constructed, perfectly round, this type of *debni* required considerable work; some are as big as 20 meters in diameter.

Other types of monuments, less numerous than the preceding, are nevertheless rather widespread. They consist of perfectly regular concentric circles, marked out with stones dug into the ground; the largest have diameters of about 25 meters.

Rectangles enclosed by standing slabs and filled with average-sized pebbles also exist. These rectangles may be from 40 to 60 centimeters high. To the east, about two meters away, is constructed a U, with the ends pointing to the *debni*.

One also finds circles entirely paved with slabs, ordinary tumuli surrounded by oval flagging, and tumuli enclosed by little concentric walls crossed by a paved path. Lastly, *idebnan* in the form of crescents, with the central part filled with pebbles, are often associated with tumuli. The filling of the crescent diminishes toward the points to end in a line of stones. Some of these crescents have an enormous spread, with the distance between the points reaching as much as 400 meters; they are nearly always situated on an elongated and

172 /40 cont./ isolated gara /butte/, or on the slopes of a larger hill. One hardly ever sees them in the Ahaggar; the area in which these crescents are found extends toward the south of the central massif, beyond the large regs; a great many are found in the Adrar des Iforas and in the southern tassilis. It may be that they are manifestations of a civilization different from that of the central Ahaggar.

Oral Traditions

172 The Tuareg know that before their arrival a people called
173 the Issabaten existed in the Ahaggar. These people had a social system /41/ of castes and were ignorant of the camel. The Issabaten were unintelligent, and their stupidity is still proverbial today. The Tuareg say that they never had any conflict with these gentle and calm beings. Some of the Issabaten, no doubt of a higher caste, must have been cleverer, for tradition still conserves the name of Amamellen and of his nephew Elias, who reputedly were the founders of rock art. These people had no religion -- this must be understood to mean that they were not Moslems.

No one has yet been able to translate the ancient inscriptions in tifinagh characters that are found rather frequently. The Tuareg maintain that the inscriptions are in a language different from their own, although written with the same characters; some Tuareg believe that the inscriptions are in code, with the letters transposed within the words, and that whoever is able to decipher them will learn where treasures are hidden.

It is certain that a civilization with paleolithic techniques
172 existed in the Ahaggar during a humid period, probably at
174 the edge of lakes or around the drainage basins into which the large wadis (Tanezrouft: Amded, Tamanrasset; Igharghar, Tin-Tarabin, In-Guezzam, Amadror, Thihodaïne, Tafassasset) emptied. There is every reason to believe that

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/41 cont./ the beings who peopled the Ahaggar at that epoch must have been of a Negroid race, similar in general characteristics to the people of Asselar. They were probably fishermen and hunters. Vegetation was abundant at the edges of the present-day wadis. A fauna composed of elephants, felines, giraffes, etc., reigned in the plains. The Atakor no doubt enjoyed a Mediterranean climate, but must not have been inhabited. It does not appear to be possible at this time to determine the duration of this period or to place it in time; it must have had some connection with the glacial periods in Europe.

During an interglacial period, the change to a dry climate gave the Ahaggar a desertlike character. The Negroid population, seeing its way of life upset, must have fled the Ahaggar to go south until it found conditions of existence suitable to it. .

For a long while the Ahaggar remained uninhabited. /42/ The dryness continued, and the Sahara was a more terrible desert for man than it is today. Then came a period of great humidity, brought on by more regular Sudanese monsoons. The wadis flowed again, although not as heavily or as regularly as in the paleolithic epoch. One must imagine the Ahaggar with a climate scarcely different from that of today, but with regular annual rains which allowed a fauna of the savannah to move from pasture to pasture, from the northern to the southern tassilis. The Atakor retained something of its Mediterranean character, evolving toward the residual type one sees at the present time.

With conditions suitable for human life again realized in the Ahaggar, man returned to populate these regions. The new inhabitant of the Ahaggar possessed a civilization that he brought with him, no doubt from Upper Egypt. He was a cattle raiser, Negroid in type, clever at working and polishing stone; he knew how to cultivate cereals, and how to grind and cook them. The women, fat and often steatopygic, 172 174 /42 cont./ made pots decorated with line drawings. These peoples, with a neolithic culture, could have come to the Ahaggar from the south and the east, but some groups could have come by way of the Igharghar Valley, driving their cattle before them. The tribal chiefs were aged men, masters of magic rites; they knew how to cast spells and used esoteric signs. Some were veritable artists in engraving and sculpture.

Later, there is reason to believe, white populations from Libya settled in the Ahaggar, bringing with them heliolithic customs from the Mediterranean shores, such as megalithic monuments, the sun and serpent cults, cranial deformation, the caste system. The paintings in the Tefedest clearly represent Negro shepherds, but the new paintings of the Takecherouelt wadi show people of a white race, tall and thin.

Should we consider these whites to be the ancestors of the /43/ present-day Tuareg? It would be premature to think this, but they may have been the first wave of Berbers to come to the Ahaggar. Their exodus may have been remembered by the nomadic Berber tribes who, later, camel owners, fled for various reasons before Roman and Arab promiscuity, and rediscovered the route of the neolithic whites to the Ahaggar.

The chronology of the protohistory is difficult to establish. However, a certain number of documents on this period exist. In the first place, we have the results of archaeological research, from the excavation of pre-Islamic monuments, particularly that of Tin-Hinan (cf. the book by M. Reygasse on the pre-Islamic funerary monuments).

173 The Tuareg have a certain number of oral traditions concerning this period. On the other hand, the inscriptions from the "cameline" age give us only very sketchy information: the oldest are untranslatable, and the most recent offer very little of interest; they are limited to the expression of the admiration of a man for a woman, or to arranging rendezvous.

173 /43 cont./ The Latin, Greek, and Arab texts that have come down to us give rise to very diverse interpretations and are, in any case, extremely fragmentary.

It seems acceptable to put the beginning of this period, as far as the Ahaggar is concerned, at about the time of the Punic Wars, and to end it on February 16, 1881, date of the massacre of the Flatters mission. From that date on, the Ahaggar enters into history properly speaking.

The protohistory of the Ahaggar poses the question of the origin of the Tuareg, a question which has not yet been satisfactorily resolved. They are probably Berbers coming from different tribes, who could have crossed with a white population already settled in the Ahaggar. What characterizes the Tuareg, aside from certain somatic traits such as tall stature, an arm span /envergure/ often greater than their height, smooth or wavy black hair, the rarity of hairiness, is the unity of the language, the use of tifinagh characters, and a way of life with particular customs which has succeeded in assimilating tribes of Arab origin, such as the Issakamaren.

/44/ The Tuareg pass on orally the legendary story of Tin Hinan, said to be the "mother," ancestress of the Kel Rela nobles, who know no masculine ancestor, although some say he was French (an affirmation to be regarded with suspicion and certainly of recent origin).

Tin Hinan supposedly came from Tafilalet, but no one knows why she came to the Ahaggar, accompanied by her servant woman Takamat, ancestress of the Dag Rali.

The story, which neglects the male ancestor, must be
[565] regarded as the expression of the Tuareg tradition which calls for the transmission of the rights of nobility through the women.

The /early/ Tuareg must have possessed camels, for Tin Hinan rode a white female camel. Did they join, either as guides or protectors, caravans going to the north? We may think this, for the excavations of Tin Hinan's tomb by M. Reygasse uncovered funerary furniture which included objects of Roman origin.

174 /44 cont./ But the life of the Ahaggar soon was oriented toward the Sudan, from whence came the current of Islamization originating in Morocco. It is the Arab chroniclers, above all Ibn Khaldoun, who give us a view of the centuries troubled by incessant conflicts between the Negro kingdoms and the Tuareg, between the Tuareg and the Arabs, and between the different Tuareg tribes. Thanks to the genealogy of the noble families, recorded in oral traditions, a tentative chronology is possible.

The first Moslems probably came to preach in the Ahaggar toward the seventh or eighth century; they came from south Morocco and represented themselves to be Chorfa.

Continual wars raged between the Moslem Berbers and the Sonraï /Songhai/ of Gao, who controlled the Sudanese Sahel. After a series of successes and reverses, the Tuareg permanently installed themselves in the Ahaggar, the Adrar des Iforas, the Aïr, and the Tassili des Adjjer, mountainous, semi-desert regions where life is possible for nomads, where places of retreat are easy to defend, which make excellent bases for raids, and which constitute a zone of wells indispensable to caravans.

/45/ Beginning in the sixteenth century, the history of the Ahaggar is that of the struggle between rival tribes: a long enumeration of successful or unsuccessful raids, of assassinations of chiefs, of abductions.

The tribe which ruled the whole of the Tuareg from the beginning of the conversion to Islam was that of the Iménanes, of whom there are only a few descendants today. The Iménanes were Moroccan Chorfa. Toward the seventeenth century, the Iménanes were obliged to divide their lands and authority among the different, altogether too bellicose, Tuareg tribes. From this time dates the partition into the Tuareg of the Ahaggar, the Aïr, the Ajjers, and the Iforas.

The Kel Ahaggar emerged as a tribal confederation, ruled over by noble tribes, each of which had vassal tribes. Four

/45 cont./ more or less related noble tribes divided the lands of the Ahaggar. The Kel Rela claim to be descended from a Moroccan sherif; the Taïtoks are related to the Iménanes, therefore are Chorfa, but they are said to have crossed with the Negroes; those two tribes are the most important. The Ikadéiens were supposedly Berbers crossed with the Arabs of the Tidikelt; this tribe has hardly any descendants left today. The Tédjéhé Mellet have Chorfa blood; they were never very numerous and at present are represented by a small group of tents living in the Tefedest.

Constant anarchy reigned in this confederation. Assassinations led to a rapid turnover in leadership, and command was a dangerous game. The noble tribes divided the lands of the Ahaggar. The Kel Rela had the Atakor, the Tédjéhé Mellet had the Tefedest and the northern *tassilis*, the Taïtoks had the Ahnet and the southwest of the Ahaggar.

Since this partition, the genealogy of the Kel Rela is fairly accurately known. Kella, a noble Tuareg woman, transmitted the tobol (1) from mother to daughters. The two most important noble tribes, the Kel Rela and the Taïtoks, quarreled incessantly over rights of succession to the *tobol*, after marriages concluded in periods of friendship. Battles and alliances followed each other /46/ in confused fashion. When they were united, the Kel Ahaggar fought the Arabs of the Touat or the Negroes of the Sudan; when they fell out, they resumed their internal fights or attacked the Ajjers /Azjer/.

Pillaging or protecting the caravans, the Tuareg controlled the central and southern Sahara at the time the French sought to secure a liaison between Black Africa and Algeria. Even this common enemy scarcely succeeded in uniting the Tuareg.

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1. A sort of drum, symbol of command; by extension: the right to command.

/46 cont./ Man

571 In order to understand Tuareg country well, it is necessary to examine the people from the ethnic point of view, in so far as this is possible, and also from the social and economic point of view.

A concise table will show the different ethnic groups, the social classes, and the economic specializations; it will facilitate a better understanding of the human relations.

A. Ethnic /groups/

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1.	Whites :	Berbers	: Tuareg	Nobles Imrads, except for the Issakamaren
		Arabs	: Mozabites	
			: Chorfa	
			: Chaamba	
2.	Blacks :	Iklan	: Sudanese	
		Harratin	: Sudanese, Saharans	
3.	Mixed :	Maalmines :		
		Issakamaren :	Arab - Tuareg	
		Mixed Tuareg - Negro		

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B. Social Organization

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564 1. Tuareg
1. Nobles (Ihaggarènes)
2. Vassals (Imrads)
3. Artisans (Inaden)
4. Gardeners (Harratin)
5. Domestics (Iklan)

2. Arabs
Chorfa (holy men)
Zaoui " "
Chaamba
Miscellaneous
Mixed

3. Mozabites

/47 cont./

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C. Economic Organization

Tuareg :	Nomadic herdsmen
Arabs :	Nomadic herdsmen and traders
Inaden :	Artisans
Harratin :	Cultivators, craftsmen, manual laborers
Iklan :	Domestics of the Tuareg
Mozabites:	Sedentary traders
Chorfa :	Receive alms in exchange for their presence
Zaoui :	id.

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At the beginning of the French occupation, the Tuareg people were in a stage of social evolution similar in many ways to our Middle Ages. The same system is still in force today, although cracks in it may be seen, caused by the French and Moslem presence. To speak only of the Kel Ahaggar, who are the only ones who concern us in this study, we see a confederation of tribes commanded by the "amenokal," who is elected for life. His title confers on him the ownership of the soil, amenokal meaning "owner of the land." He disposes of the territories of nomadization /terres de parcours/ and of the arable land as he wishes. In practice, this power is exercised according to custom and in a paternalistic fashion.

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Among the tribes, a very rigid caste system exists. First, there are the noble tribes which formerly supplied the warriors; they undertook the protection of the confederation. They were rich with loot taken from /48/ neighboring confederations and from outside caravans, and from protection money paid by caravaneers who passed through Kel Ahaggar territory. Then, there are the imrad tribes -- we may call them vassals. More numerous and made up of camel herders and caravan guides, they could be called on to furnish reinforcements when an expedition ran into trouble or was larger than usual.

/46 cont./ Man

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3.	Mixed :	Maalmines	:	
		Issakamaren	: Arab - Tuareg	
		Mixed Tuareg - Negro		

/47/

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1. Tuareg	2. Arabs	3. Mozabites
1. Nobles (Ihaggarènes)	Chorfa (holy men)	
2. Vassals (Imrads)	Zaoui " "	
3. Artisans (Inaden)	Chaamba	
4. Gardeners (Harratin)	Miscellaneous	
5. Domestics (Iklan)	Mixed	

/47 cont./

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571 /48 cont./ Each tribe possessed slaves (iklan), bought or
564 captured in the Sudan. They lived with Tuareg families, carry-
[567] ing out domestic chores, tending goats, extracting salt, digging
wells. These slave families were an integral part of the tribe
and followed it in its moves.

The harratin were free or freed men, generally Negroes, often natives of the Touat, come to cultivate the arable lands of the Ahaggar. They worked under two contract systems, which are still in force and which we shall study further on.

The Tribes

631 In the preceding chapter we saw that each noble tribe possessed imrads, or vassals. Each of these imrad tribes has a chief called "amrar," who rules the tribe according to custom. A tribe can be divided and subdivided. The tribe possesses a pasture region of its own, in which no other tribe may sojourn without a previous agreement with the amenokal, and that only in exceptional circumstances. The nobles may sojourn as they like on the lands of the vassals. The imrad tribes pay a due to the amenokal as a sign of their vassalage. This tax is called "tioussé." The payments are always in kind and in general are scrupulously discharged. This revenue enables the amenokal to uphold his rank suitably during the almost daily receptions, but it is not enough to cover the expenses of his command completely.

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The Nobles

565 The Kel Rela at present constitute the most important noble tribe of the Ahaggar. These nobles, called in Tamashek "ihaggarènes," are split into three subgroups: the iboglanes, the inembas, and the ikérémoïens. These subgroups are related and increasingly practice endogamy.

The Kel Rela are without doubt the handsomest specimens of the Tuareg type. Does this derive from the fact that they have

565/49 cont. / been the ruling caste for a long time? One is obliged to remark their true nobility, their refined politeness, and their never failing courtesy. They are more open than the imrads, often more intelligent, and some of them even possess a sense of humor. Beyh ag Akhamouk, the present amenokal, is a very representative personage and has fine qualities as a chief. The young Kel Rela turn more and more to the French, associate with them, become their friends. This attraction will become generalized little by little, that is, the esteem that these young people have for particular individuals will be extended to include France, which is only an abstraction for them. [162] [563] The Kel Rela number slightly over 300 and possess about 350 black servants. Their tents are scattered over the whole of Ahaggar territory. The camp of the amenokal is never very far from Tamanrasset.

[162] Another noble tribe, the Tédjéhé Mellet, is not large; reduced to 32 individuals, it ordinarily sojourns in the Tefedest near the imrad tribes it possesses: the Kel Ohet and Kel Terrourrit. These nobles play practically no role in the Tuareg organization of the Ahaggar. The tribe's amrar is Khourou ag Salah.

Since our arrival in the Ahaggar, the Taïtok tribe has been exiled to the Sudan and has been dispossessed of its lands. [162] There still remain, however, about 30 nomadic Taïtoks in the vicinity of Tamanrasset. Illou ag Amri is the amrar.

[162] Nearly 70 nobles from the Sudanese tribe of Iforas sojourn in Ahaggar territory. They are often allied with the Kel /50/ Rela. Among these Iforas are a few who belong to the marabout Iforas of Temassinine.

The Imrads

According to legend, the Dag Rali are the descendants of Takamat, Tin Hinan's servant woman. The mountains of the

565 /50 cont./ Atakor and the Arechchoum are their pasture regions. It is a tribe of rich camel and goat raisers.

[162 563] [147] It is the most important imrad tribe under the Kel Rela; there are about 390, served by nearly 400 Negroes. The Dag Rali are stubborn mountaineers, a little narrow minded. They are remarkably resistant to fatigue when they walk in their rough country. Let us also note their adaptation to the cold of December, January, and February; the camps are generally situated at an average altitude of 2,000 meters. [291 132] The Tuareg are clothed in two cotton gandurahs and are quite often wrapped in a "dokali"; they bear cold which drops as low as -12° in the tent toward five in the morning.

The tribe's amrar is Akroud ag Ama (1). The handsomest tents belong to the Dag Rali, and the men are renowned as hunters of wild sheep.

[651] The tioussé paid to the amenokal is about 12 mezoued /leather grain sacks/ of dates, eight bottas /bottles/ of butter, the loan of 12 ewes for milk, and ten goats for slaughtering.

Several subgroups may be seen within the Dag Rali, named mainly according to the regions they inhabit: Kel Arechchoumi, /sic/ and the Ikhechemaden, who formerly were imrads of the Taïtoks.

[162 563] The most numerous imrad tribe is the Adjouh n'Téhélé. It includes approximately 590 individuals and more than 750 Negro domestics. Although imrads, the Adjouh n'Téhélé are regarded as different by the nobles. Toward the eighteenth century, this tribe, which was living in the Aïr at the time, came of its own accord to incorporate itself into the Kel Ahaggar. This was done to escape the exactions /51/ of the sultan of Agadez, who each year demanded a virgin as a sign of vassalage. This tribe's territory of nomadization extends to the east and south of those of the Dag Rali.

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1. Died in 1952.

565 /51 cont./ The most important agricultural centers belong-
621 ing to the Adjouh n'Téhélé are Tarhaouaout, In Dalag, and
Tahifet. There are several subgroups: the Isanden in the Isernan
region; the Kel Rafsa, Tahifet region; the Relaïdine, Tin-
Tarabin region; and the Kel Hagalella to the south of
Tamanrasset. The tribe's amrar is Samaalatokh ag Mansouri.
[651] The tioussé paid to the amenokal is approximately the same as
that paid by the Dag Rali.

565 The Adjouh n'Téhélé have an open character; they are gay
[157] and like to joke, but they have the reputation of being quick
tempered and irascible.

The Aït Loen tribe is, like the preceding ones, an imrad
tribe of the Kel Rela. It is descended from Takamat. These
Tuareg are nomads in the eastern Atakor and sometimes pene-
trate into Ajjers territory. Their most important center is Tin-
[491] Tarabin. There are no roads going into the territory of this tribe,
so their tents are rarely visited.

[162 There are about 500 Aït Loen; they possess 620 black
563] servants. The Kel Torha, Kel Anahef, and Kel Telerteba are
the three subgroups of the tribe, whose chief is El Ralen ag
[651] Nissoran. Their tioussé is about four mezoued of dates to the Kel
Rela and one mezoued of dates paid by the Kel Torha to the
Tédjéhé Mellet.

The Aït Loen are experienced guides for going to the Ajjers
and Ténéré regions.

[162 The Iklan Taoussit number about 600, served by 650
563] Negroes. They are nomads in the Tahelra, the Silet region, the
Amded and Tekouiat wadis, and in the northern part of the Adrar
des Iforas. They formerly belonged to the Imenanes, which
accounts for their name, which means "servant of the tribe."
[651] Their tioussé is on the order of four mezoued of millet, two
bottas of butter, and six milch goats. Dali ag Akoumaris is the
tribe's amrar. The subgroup of the tribe which sojourns almost
continually in the Tin-Zaouaten region has Khadida for chief.

565 /51 cont./ The Iklan Taoussit are /52/ the Tuareg who consume the most afazzou seeds (Panicum turgidum).

[162 563] There are very few Tédjéhé n'Néfis: 98 Tuareg and 120 Negroes. This tribe, like the preceding one, is imrad of the Kel Rela but formerly belonged to the Taïtoks. The Tédjéhé n'Néfis are related to the Adjouh n'Téhélé and like them were originally from the Aïr. Their camps are generally in the Tamanrasset wadi, downstream from the village, mostly near the gardens of Tidjenouine. The chief of the tribe is Ad Noumen ag Khadida.

[162 563] The Ibotenaten tribe, comprising 128 individuals served by 153 Blacks, is enfeoffed to the Kel Rela without being truly imrad. It is said that an Ibotenaten once killed a noble Ahaggar. The tribe was beaten by the Kel Rela and condemned to pay a tribute.

The Ibotenaten are rich camel raisers. They live permanently in the Tamesna, benefitting from the annual rains which make this region fertile. Ould Brika is the tribe's amrar.

[162 563] The Irreguenaten number 434 and have 600 Negroes. Normally they reside in the Tamesna, but they nomadize toward the Iforas and even the Timétrine region. Their name means "mixture of Arabs and Tuareg." They are allies of the Ibotenaten. Rich camel raisers, the members of this tribe are essentially nomads; they possess no agricultural center. They are the best guides to the Tassili n'Ahaggar.

[631] The name Issakamaren designates a group of tribes of Arabic origin which were raided in the Touat and the Tidikelt about the eighteenth century by the Kel Ahaggar. The Issakamaren speak Arabic and Tamashek, but their customs have become those of the Tuareg. They are incorporated in the Tuareg confederation and are treated as imrads, although with a slight nuance of inferiority in the caste system. Their pasture regions are situated on the periphery of the central massif.

[162 563] The Kel in Khar tribe includes 176 individuals and 50 Negroes. /53/ They are nomads in the eastern part of the Tefedest and trade in the Tin-Zaouaten region.

565 /53 cont./ The Mertoutek center belongs to them, and they possess gardens at Dehine and Abezzou.

[651] The tioussé is set at one young camel and a mezoued of dates. The chief of the tribe is Ikharis ag Akcham. They are rich camel raisers and are excellent guides to the Tefedest and the Amadror.

[162 563] The Kel Amguid number about 88 and possess 9 Blacks. They are related to other subgroups of the Issakamaren. They range over the region of Amguid, the Igharghar, and the Tefedest. The Kel Amguid have gardens at Adenek, Mertoutek, and [651] Ideles. They pay a tioussé of four mezoued of dates, an assaber /mat for the tents/, and a young camel. Kelli ag Khabouba is the chief of the tribe.

[162 563] Imrads of the Kel Rela, the Kel Tazolé number 60 Tuareg and 60 Negroes. They possess an important camel herd and nomadize in the region of Tazerouk, chiefly to the east of that center.

The chief of the tribe is El Mamoun ag el Hadj Baba. Tazerouk is their center, and the small neighboring centers [651] belong to them. Their tioussé is three mezoued of dates, three lambs, and a four-year-old camel.

The Kel Tazolé conduct caravans in the directions of Ghat and the Tidikelt. They exchange millet in Aïr.

[162 563] The Eouen n'Hada number 241 individuals and 90 Negroes. They are nomads in the Tefedest, the Ifetessen, and sometimes in the Selbourak wadi. Tadjemout is their agricultural [651] center. They pay the amenokal a tioussé of three mezoued of grain, a young camel, and a rug.

The Eouen n'Hada, whose amrar is Nassamou ag Elias, are guides for the Immidir.

[162 563] The Kel Immidir are around 170 individuals; they have 45 black servants. This tribe nomadizes particularly in the tassili, region of Arak, the Ifetessen, and the Rharis.

[651] They own the palms at Tadjemout and the Djoraf. This tioussé amounts to six mezoued of dates and a rug. The amrar

565 /54/ is Sidi Rali ag el Hadj Mohamed. The Kel Immidir are caravaneers going toward Ghat and the Tidikelt.

The Kel Tefedest tribe is poor: for 61 Tuareg, it has only
[162 11 Negroes. Allied to the Kel Tazolé and the Kel Immidir, it
563] nomadizes in the Tefedest and the Immidir. The Kel Tefedest formerly possessed gardens in an abandoned center near In-
[651] Amguel (Adjelil). Their tioussé is four mezoued of dates and a young camel. The amrar of the tribe is Ikkan ag Magamed.

The Ikoutessen are very poor and few in number: 85 indi-
[162 viduals and 20 Negroes. Lamari ag Moudi is the tribe's amrar.
563] They were paying a tioussé of two mezoued of dates, a guerba
[651] /waterskin/, and an empty mezoued. The Ikoutessen ordinarily sojourn in the Amguid region; they travel to the Sudan and the Tidikelt.

Formerly belonging to the Taïtoks, the Kel In Tounine now are under the Kel Rela. They are not numerous and live in the Igharghar region. The Kel In Tounine possess gardens
[651] in the Ajjers. They paid the Taïtoks, very irregularly, a tioussé of six mezoued of dates and two sheep. They are guides for going in the direction of the Ajjers.

The Kel Ahnet, former imrads of the Taïtoks, at present
[162 belong to the Kel Rela. This is a poor tribe of 125 Tuareg
563] and 10 Negroes. They are nomads in the Ahnet, the Acedjerad, and the Adrar des Iforas. They are excellent guides for the Tanezrouft. They possess gardens at Abalessa, Tahart, Tit, and Tibeghim, and palm trees in the Ahnet.

The amrar is Daniel ag Chikkat. The Kel Ahnet trade between the Tidikelt and the Iforas.

[162] The Iouarouaren tribe is composed of only 47 individuals and have no Negroes. It nomadizes in the Acedjerad but resides mainly in the Tin-Zaouaten region. Its chief is Bahman ag Beuh. The Iouarouaren possess palm trees at Tibeghim; they have the reputation of being excellent hunters of addax
[651] antelopes. They formerly paid the Taïtoks a tioussé of a mezoued of bechena /millet/ and two bottas of butter. They are guides for the Tanezrouft.

565 /55/ An imrad tribe of the Tédjéhé Mellet, the Kel Ohet
[162 includes 80 Tuareg and 20 Negroes. It is allied to the Kel
563] In Tounine and has many dealings with the Ajjers. The tribe's
amrar is Habib ag Ouhaggarène. Its members nomadize in the
[651] eastern Tefedest and own gardens at Ohet and Dehine. The
tioussé formerly was four mezoued of dates, rope, and guerbas.

[162 The Kel Terrourrirt are imrads of the Tédjéhé Mellet.
Their tribe is not numerous: 62 Tuareg and six Negroes. They
563] are very poor. They camp in the Amguid region and in the
Tassili des Adjjer and possess several gardens at In-Amguel.
[651] The amrar is Hadj Mohamed ag Salah. They were paying
four mezoued of dates, four sheep, rope, and guerbas. They
trade with the Tidikelt.

The Ibardjien are not Issakamaren. They are imrads of the
[162] Kel Rela. It is a tribe destined to die out; there are only 24
left. They reside in the Tazrouk and Ideles region. They
were remarkable hunters of wild sheep and had dogs trained for
this practice.

The presence in the Ahaggar of former soldiers, most of them Chaamba, must be noted. They marry Tuareg women, found families, and raise their children in the Tuareg customs. They are fairly numerous in the Tin-Zaouaten region.

The Maalmines. Inaden

565 Within Tuareg society are found artisans called
463 "maalmines" in Arabic, but whose Tamashek name is "inaden."
The masculine singular is "inade;" plural, "inaden." The
feminine singular is "tinat;" plural, "tinadin."

The maalmines make up a tribe whose members almost
always marry among themselves. They are related to the
maalmines of the Iforas and of the Aïr. Although very black
skinned, they do not have negroid characteristics. The origin
[174] of the maalmines is as obscure as that of the Tuareg tribes;
some think /56/ they are Jews who were captured by the Tuareg

565 /56 cont./ and who over a period of time have adopted
463 Tuareg ways (their specialization and their character lend
174 credence to this theory). Some maalmines say that they came to the Ahaggar in the time of the sultan Goma, having been separated from the Idenan tribe of which they were members. Others claim to have always belonged to the Tuareg confederation.

565 In the Ahaggar the maalmines include 17 men, about 20
463 women, and about 40 children. They have ten iklan.

The men are many-sided craftsmen, often clever and
[162] fairly artistic; in view of the material they have to work with and the tools at their disposal, one may say that they are remarkable. The women work leather with skill and art. The maalmines are not grouped in tribes but form small families scattered in every corner of the Ahaggar. When a tribe, noble or imrad, needs some work done, it sends for a craftsman and provides him with animals for transporting himself and his equipment. He lives with the tribe during the time necessary for his task and is provided for by the tribe. When the work is done he is paid, according to how satisfactory it is considered, in goats, millet, milk, butter, even camels, but there is no fixed rate paid to the maalmines by the Tuareg. There is a different arrangement when they work for the harratin, who, not being so noble as the Tuareg, would not know how to reward good work with the proper generosity. They are therefore charged the following rate: for one new
[435] hoe (made from an old oil drum): five guessa /dishes/ of wheat or millet; for four rivets put in an old hoe, one guessa of grain; for a new axe the price used to be a goat or five guessa, but since the advent of the black market there is no accurate quotation.

435 For making jewelry, there is a special price fixed by
565 custom, even for the Tuareg; thus for bracelets and earrings
463 the Targui furnishes, for example, ten pieces of silver
necessary for making two bracelets; the maalem keeps five

435 /*56 cont.*/ for himself, or else the Targui pays him in actual
463 money the value of the five pieces.

565 /*57*/ The same price applies for rings and pendants. The
inaden have an ill-defined position in Tuareg society; some
463 consider them inferior to the *imrads*, others place them be-
565 tween the nobles and the *imrads*. It is certain that the
maalmines are proud and are far from suffering from an inferiority complex. They are very well acquainted with Tuareg customs, the country, and the people, and are, in brief, the custodians of certain traditions of art, or, it could be said, of culture.

The *tinadin*, women of the *maalmines*, work leather as do all Tuareg women, but with them it takes on the character of a profession. They are very skillful and artistic, and their specialty is making cases for the *iremdan* /a tool/, sheaths for knives, and saber scabbards called "*tittar n'takouba*."

The Harratin

565 The *harratin* of the Ahaggar represent, as they do elsewhere in the Sahara, the sedentary element, chiefly agricultural.

The term designates, in the thought of the region, a caste in Tuareg society. When one questions a Kel Ahaggar about the ranking of the different castes, he places the nobles, *ihaggarènes*, first; then the vassals, *imrads*, making a distinction among them of the *issakamaren*, who are the lowest in the caste; then come the *iklan* (slaves, let us say, domestic ones) -- these *iklan* are Blacks, and their difference from the Tuareg is evident from their ethnic type.(1).

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1. A parallel Moslem religious and maraboutic hierarchy exists: (Chorfa -- Zaoui -- Arabs -- Mozabites).

565 [563] /57 cont./ The harratin, who are also Negroes, are ranked as low as the iklan by the Tuareg, who have a high degree of racial prejudice.

However, there is a nuance: the "akli" (plural: "iklan") belongs to his master, the Targui; he cannot leave him, and, if he is no longer bought and sold because of the presence of the French, he considers himself the property of his master. The /58/ hartani is a free man; he may live where he wants to, do what work he will where he will; he makes contracts with the Tuareg and is dependent on them only in so far as his work is. Moreover, as a resident of the Ahaggar, he must observe the customs of the country.

[622] [631] He is under the authority of the village chief, who is also a hartani, responsible to the amenokal (1).

1. This ranking and this information concern the observance of custom and have nothing to do with French law, which is administered by the head of the annex and by the judicial authorities at Batna.

[166] The harratin of the Ahaggar apparently have two possible origins. Some come from the oases of the Touat and the Tidikelt. This population movement has, it appears, always existed. The number of these harratin varies; there is, in fact, a continual coming and going between the Ahaggar and the oases of the north, according with the dry and wet years.

[567] The other harratin are iklan who have been freed by the Tuareg. The chief cause of this emancipation is the growing poverty of the nobles and vassals, who no longer have sufficient resources to feed and clothe their domestics.

565 /58 cont./ These freed men are no happier for their rise in the caste system, for this liberty is often synonymous with complete destitution.

The economic difficulties resulting from the prohibition of raiding have done more to suppress slavery than law and reason.

174 565 What is to be said on the historic origins of the harratin as an ethnic type? We have already seen that there are two types of harratin.

The former Tuareg slaves are probably originally from the Sudan and the Niger, where they were bought or captured in raids.

The harratin from the Touat and the Tidikelt may have the same origin as the others, but one cannot dismiss the theory that they are descendants, more or less pure, /59/ of an ancient negroid people of the Sahara (1).

565 241 The harratin constitute a most interesting social element in the Ahaggar, because it is they who cultivate the rare productive plots and who furnish the workmen: masons, carpenters, and manual laborers. If they appear at first sight

1. In this connection, it is useful to read the articles published in the Bulletins de liaison saharienne at Algiers. These were prepared by professors of the University of Algiers and by all the important persons who, in different capacities, have worked in the Sahara. (Editor: Commander Ferry. Administration of the Territories of the South: Government General of Algeria).

565 241 /59 cont./ to possess few intellectual or moral qualities, they are perhaps nonetheless readily adaptable.

The Language

197 The Tuareg speak a Berber language. This language is certainly the strongest link which unites the scattered populations from the regs of the Tidikelt to the banks of the Niger; it is, more than the ethnic type, the element characteristic of these peoples. It is through the language that is maintained what may still be called "Tuareg culture," which survives in the traditions, mores, and superstitions.

This language, which is called "Tamahaq" in the Ahaggar and "Tamacheq" in the Sudan, has several dialects: that spoken by the Kel Ahaggar is called "Tahaggart," thus designated by the Kel Ajjers and the Taïtoks; in the Aïr it is called "Taïrt"; in the Adrar des Iforas, "Tadrak," and the dialect of the Aoullimiden is called "Taoullemmet."

These dialects are very similar to each other; a few local differences in pronunciation distinguish them, as well as certain idioms.

Tahaggart, the language of the Tuareg of the Ahaggar, has been studied the most, chiefly in the noble tribes because, Father de Foucauld said, "the language is pure only as spoken by the nobles."

114 It is a complex language, rich and full of nuances, with a precise and difficult syntax. General Hanoteau succeeded, with the help of Tuareg captured during a battle, in writing a /60/ Tuareg grammar; this was the first formal study of Tamashek.

Dictionaries were compiled by Cid Kaoui and M. Masqueray, but the most remarkable work, which constitutes a summary, is the dictionary of Father de Foucauld. Father de Foucauld's grammar and the texts he has collected afford the best material for studying Tamashek.

114 /60 cont./ It would be impossible to praise too highly the work of the "hermit of the Ahaggar," for it has in a sense illuminated a civilization for history.

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194 /61/ The peculiarity of Tamashek as a Berber language is that it can be written with its own characters, which are called "tifinagh."

There are 25 tifinagh characters, to which must be added compound letters formed by the combination of two simple elements.

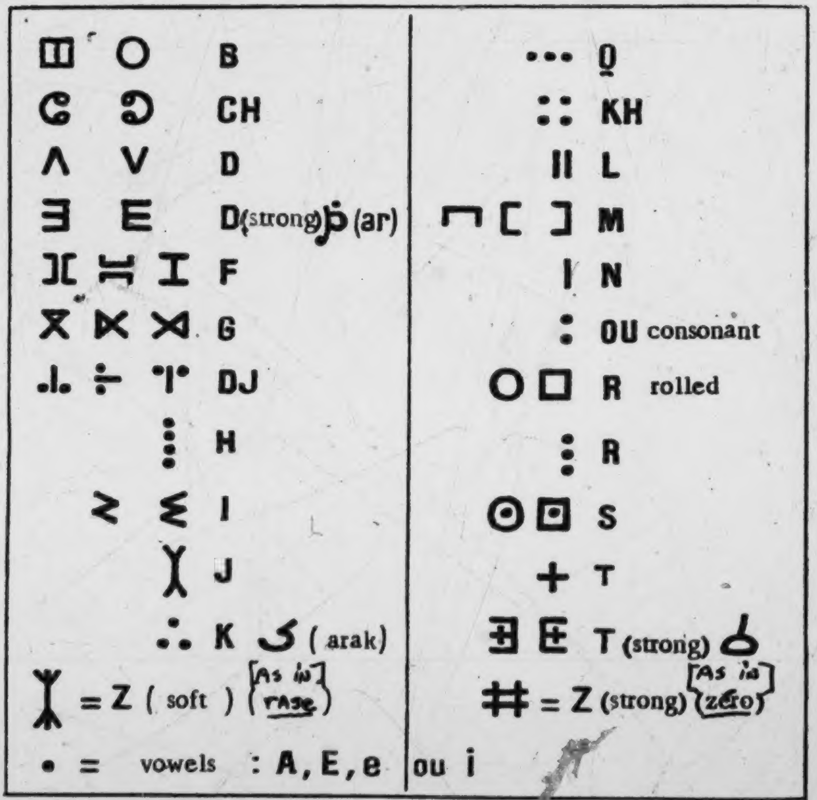
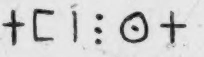

B
CH
D
D(strong) (ar)
F
G
DJ
H
I
J
K (arak)
= Z (soft) [As in rase]
= vowels : A, E, e ou i
Q
KH
L
M
N
OU consonant
R rolled
R
S
T
T (strong)
= Z (strong) [As in zero]

Table of tifinagh letters.

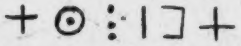
/61 cont./ Each letter represents a consonant of the language; a single sign at the end of a word indicates the vowel element. To write a word, all that need be done is to write its consonants one after the other, without attaching them to each other, in any direction one pleases, from left to right or from right to left, from top to bottom or else from bottom to top, according to the fancy of the writer. Some letters, such as the M, the G, or the strong D, indicate the direction of the writing.

All written letters are pronounced, with very rare exceptions.

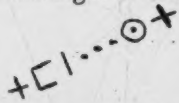
Here is "Tamanrasset" written in tifinagh characters:



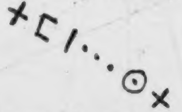
or



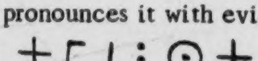
The way the prongs of the M point indicate whether to read from the right or from the left. The word may also be written:



or yet again



One may easily imagine that this writing without vowels is rather hard to read; it is necessary, in fact, to insert the vowels in their proper places as one reads. It is always an amusing sight to see a Targui deciphering tifinagh script; he mumbles to himself as he spells out each letter of a word until, /62/ saying it aloud, he identifies the word, realizes its meaning, and finally pronounces it with evident satisfaction.



Iété..é. é, émmé.éé., énné.. é ., IèR... éssé..é.é. éTT. This permits him to decipher: Tamanrasset.

This system of spelling makes reading a text a long and complicated process, for one must remember the words that have been deciphered in order to reconstruct the sentence, otherwise one must begin all over again. A thorough knowledge of the language is indispensable for being able to place the vowels correctly and for avoiding misreadings.

191 /62 cont./ In spite of this difficulty in transcription, the Tuareg amuse themselves by transposing the letters in a word, making it utterly incomprehensible for the uninitiated.

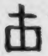
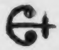
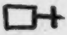
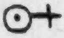
[177] At the present time Tamashek is borrowing many words from Arabic and French. Father de Foucauld had already noticed during his time this invasion of Arabic and the way the Tuareg adapted numerous words to their own speech habits.

[212] In the noble tribes, each individual knows how to read and write, but that is not the case with the imrads, for many of the vassals barely know how to write their names.

The richness of the spoken language is greatly declining due to bilingualism and doubtless also because poetry, formerly inspired by the exploits of the warriors, tends to disappear. One may thus realize the importance of Father de Foucauld's work, which permanently recorded a language of oral tradition.

There will certainly come a day when the Tuareg will have to use French to perfect themselves in their own language.

NOTE: Some compound characters.:

[212]  = bt  = cht  = rt  = st

/63/

II

Economy

Generalizations on the Economy of the Ahaggar

241 A country such as the one we have seen in the study of the physical characteristics of the Ahaggar, possessing very limited resources because of the scarcity of water and the poverty of the soil, can only have an agriculture of small and uncertain productivity.

439 /63 cont./ Tuareg society, nomadic through geographical necessity and warlike by need, in order to feed the soldier nobles, the herdsmen *imrads*, and the domestic slaves, had to find a way to balance the risks attendant to the cultivation of the valleys of the Ahaggar by the *harratin*. The method found is, on the one hand, to exchange salt extracted from the Amadror for millet from the Sudan, and, on the other hand, to exchange wheat harvested in the Ahaggar for dates from the Tidikelt. This double movement constitutes the essence of the Tuareg economy; it brings to light:

1) Barter, still used as system of exchange.

2) The curious fact that the Targui feeds himself with foods which are not produced in the Ahaggar, dates and millet.

3) The fact that if the Targui needs Negro domestics and *harratin* cultivators, he is equally necessary to them in order for them to live. It is estimated that millet makes up two-thirds of /64/ the food of the population of the Ahaggar, the other third consisting of dates.

4) The existence, as a result of this organization, of a large camel herd to maintain the caravans.

Barter

This country, disinherited by nature, nevertheless gives
317 its inhabitants one rich resource: salt. This salt, which is
439 lacking in the Sudan, lies in great quantities on the Amadror plain, an interior basin situated to the northeast of the Ahaggar, bounded to the north by the Tassili des Adjjer, to the west by the Edjéré, and to the east by the hills which separate it from the basin of the Taffassasset.

The Amadror region, an old dried-up sebkha, is particularly desertlike. The salt is at the surface, so it is mined in the open air, in blocks weighing 50 or 60 kilograms; the small pieces cut from the blocks are put in sacks and carried off. It is evident that such a barren, desolate, frightful,

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439 /64 cont./ waterless country would inspire legends; stories are told of genii which haunt the salt mines all night long, and this invisible and baneful world may be heard thumping the ground and ceaselessly breaking the salt blocks with diabolical energy. When day returns, the work site seems to be in the same state as on the evening before, and nothing seems to have happened during the night, ...and yet, "They were there." Some Tuareg claim to have seen horse tracks stamped in the ground and to have ascertained the existence of equipment for extracting salt predating those now in use -- which would tend to prove the antiquity of this mining work.

The desert contains other saltworks which supply the Sudan; to the west, Idjil and above all Taoudéni are the best known; to the east are the mines of Bilma and the Acedjerad, but among the latter the Amadror salt is the most esteemed at the markets of the savanna.

Toward the month of April or May, the Tuareg send their /65/ Negro domestics to extract the salt. Caravans of about a hundred camels advance by small stages toward the salt mines, following well-beaten tracks which lead by the wells of Dehine and In-Tarass (the latter is 40 kilometers from the salt).

The work is done as rapidly as possible, for the sojourn in those parts has nothing pleasant about it because of the heat, the lack of water and wood, and the nocturnal presence of the Kel es Souf (genii). The method of extraction is clearly disorderly, but what does it matter, there is so much salt! 492 The blocks are hewn with a kind of ax; two blocks, after having been tied with a chebka (coarse net), make a load for a camel. The small pieces are put in sacks (made from palm fibers) in 50-kilogram loads. In ten days, two men can load 50 camels, or about three metric tons of salt.

Then comes the return to the camps in the Ahaggar. Until time to be sent to the Sudan, the salt is stored near the tents or the villages. The custom is for the Negro returning

317 439 /65 cont./ from the Amadror to offer bits of salt to the camps he encounters on his way; in exchange he is given lodging and entertained.

439 When the moment comes to leave for the Sudan, at the end of June, a Targui takes command of the caravan, in which every fifth camel carries salt. Toward the end of July the caravan arrives in the Tamesna, the region of In-Abangarit, where the Ahaggar camels live permanently. This is still almost home, it is good to rest here, and the camels, which have just covered about 1, 000 kilometers, take advantage of the abundant pastures of the Sahel region. Toward the month of September or the beginning of October, the caravan gets under way again with the camels rested or exchanged for fresh ones. The Damergou region, whose largest center is Tahoua, is reached toward the end of October. This region is well known to the Kel Ahaggar. Their customers are there. Then the bartering begins; it is a long operation involving protracted discussions and laborious bargaining, during which /66/ the Tuareg exchange the salt for millet at a rate varying from year to year (the rate depends on the size of the millet harvest and how much salt is brought from elsewhere than the Ahaggar). Consignments of marine salt arriving by river routes threaten to upset the balance of the Ahaggar economy and to starve the Tuareg.

Times are cited during which a load of salt was exchanged for 15 loads of millet; on the average, the barter is carried out on the basis of five to eight loads of millet for one load of salt. The quantities exchanged are very small; they vary from a handful to two kilograms. Sometimes, but rather rarely, salt is sold to traders. With the money thus obtained, the Targui buys cloth, leather, a saddle, and several objects of domestic use, then starts back for the Ahaggar. It is now January; it will take three months before seeing the koudia again, for the caravan is laden and always stops at Tamesna, where there are celebrations, tendi, ilougan, and welcoming

439 /66 cont./ girls. The return of the millet caravans is the major event of the year. It is estimated that the millet imported from the Sudan constitutes two-thirds of the Tuareg's food. Once in the Ahaggar, the millet is stored in silos made of clay bricks, based on rock slabs so as to be protected from termites. These constructions, neither cylindrical nor conical, are a curious sight standing near the camps or the villages. The owners are sometimes absent, but no one tries to steal what could easily be taken.

Agriculture

423 [643] The chief characteristic of the land system in the Ahaggar is that the amenokal is, by virtue of his office, the sole owner of the land.

[651] Whoever wants to drill a foggara must first ask permission of the amenokal and must pay him a tax of ten kilograms of wheat per garden.

The garden is the unit of cultivation. One foggara irrigates from /67/ six to ten gardens. Any other surface unit would have no meaning since the size of the cultivated plot depends on the flow of the foggara, which varies according to the year and to the different agricultural centers. At Tamanrasset a foggara waters 3.80 hectares; at Tit, 3.30 hectares; at Ideles, 4.0 hectares. A garden's area, then, varies from 40 to 60 ares. The wheat harvest may amount to
[651] 400 kilograms per hectare; the tax in that case is about one-fortieth of the harvest. Whether the owner of the garden is a Targui or a hartani, the tax (mek) is paid to the amenokal.

Trees planted in the gardens remain the property of the amenokal, for they are attached to the ground.

This inalienable possession of the land by the amenokal has enabled the Tuareg to conserve the rare cultivable lands in the Ahaggar. The force of their tribal custom saves them from their individual lack of foresight. Unfortunately, this right of the amenokal retards agricultural evolution and the maximum productive use of the lands of the Ahaggar, because the cultivator can never own the land he works. He has no

423 /67 cont./ interest in planting trees that he cannot keep. A constant effort at arboriculture cannot be hoped for since the gardener may change frequently, and the successor of a tree planter may be ignorant or unscrupulous and is free to let the planting fail.

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Besides the cultivated land, the land through which routes pass has great importance in the Ahaggar. The whole of the territory of the Kel Ahaggar has always been divided among the different Tuareg tribes. Strictly applied oral regulations define the rights and servitudes of a tribe concerning its land.

1) Passage through and watering on the lands of a tribe is the right of other Tuareg.

2) No one may sojourn on the lands of a tribe without the consent of that tribe's chief.

3) Whoever follows travelers' routes through land belonging to a tribe is responsible for any damage caused by him or his animals to the trees, wells, foggaras, gardens, and game. [685] Here are several penalties: one goat for a broken tree branch; one sheep for damage caused /68/ by a poorly watched herd; a camel for damage caused by camels; part or all of any game killed. When a camel runs away, the owner is not responsible; he must even be told and helped. It is forbidden to put animals in a pasture where plants have not attained maximum growth.

4) The amenokal may sometimes authorize tribes to sojourn on the lands of a certain tribe, in case there is an abundance of pasturage on these lands.

The servitudes of the tribes are the normal consequence of their nomadic life, but the rights concerning the land passed through bring to light a characteristic of the Tuareg: their love of the land. These nomads, who should seek the most abundant pastures, whose every interest calls them toward the Sudan, remain attached to their soil. They observe regulations suitable for sedentary peoples.

648 Let us note that there is no agricultural exploitation directed by Europeans in the Ahaggar. The principal reason for this abstention is the meager yield to be expected; the reduction

648 /68 cont./ of the underground water level, which often results in the abandonment of a site, does not permit a costly installation. About ten years ago, a former sergeant-major of the Sahara corps settled at Tiguenouine, a small center 70 kilometers south of Tamanrasset; he quickly gave up his idea of farming and became a nomad. Another Frenchman, a retired soldier, nomadizes in the Tin-Zaouaten region; he leads a life like the Tuareg, and his herds prosper.

Officials reside at Tamanrasset, lodged in administration quarters which sometimes have a small garden for family use. The community maintains a large garden where experiments in farming and arboriculture are carried out.

241 The Tuareg, as we said, are the only landowners; let us now see how they utilize their lands. As in all countries under Moslem influence, the method of agriculture is the "*khamassa*," with certain local variations. The *khammès* usually is a *hartani*,/69/ a Negro originally from the Tidikelt or a freed slave.

The agricultural system in the Ahaggar is supported by the *foggara*, which should water six to eight gardens. The proprietor of the *foggara*, generally a Targui, engages one *khammes* per garden. He will look among the *harratin* of the village for gardeners who will come to terms with him. An
241 oral contract is made between the proprietor and the *khammès*,
675 before witnesses. This contract may be summarized thus:

The proprietor agrees, first of all, to provide the land, which he has rented from the *amenokal*. He must also provide his gardener with water from the *foggara* he has had dug, with a "*mesaha*" (hoe), and with the necessary seed. In addition, the proprietor must clear the land at his own expense and must see to the improvement of the soil. He must advance the *hartani* food in the amount of 60 *guessa* of millet per year.

In exchange, the *khammès* undertakes the work in the fields, the threshing, and the upkeep of the *foggara*.

As "salary" he collects a fifth of the harvest. He also receives the fallen and gleaned ears, the harvest from ten

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/*69* *cont.*/ "*guemouns*" /plots/ situated near the *majen* (clay basins), and the wheat and barley sown in the *séguias* /irrigation ditches/ which belong to him.

In addition, the wheat found mixed with the dust of the threshing ground belongs to him by right, as well as the staw and several vegetables that are grown. Lastly, if the flow of the *foggara* slackens and new wells must be dug upstream, the *khammès* is paid three guessa of wheat per well dug.

In case of disputes between the proprietors and the *khammès*, [692] the palavers are held in the presence of the chief of the tribe (on the Tuareg side) and the chief of the village (on the *harratin* side). The *amenokal* intervenes upon appeal, but rarely, for these contracts fixed by custom are, in general, scrupulously observed.

The Targui has limited confidence in the honesty of his *khammès*, an opinion often justified, for the *hartani* deliberately pushes over ears of grain so he may have them by his gleaning rights. The proprietor does not have the magnanimity of Boaz. Therefore, when harvest time comes, he installs himself /*70*/ and all his family near his garden in order to make sure that the operations are properly carried out. The *khammès* must furnish food for the Targui, a heavy burden for the former. That is the custom, which also holds that in case the Targui is prevented from coming, the *hartani* pays a due of 25 kilograms of wheat to guarantee this right of sojourn.

Another type of contract exists called "*aril*" in Tamashek and "*nous*" (half) in Arabic. The net harvest is divided into two equal parts, taking into account the following provisions:

The proprietor Targui must furnish the land rented from the *amenokal*, a *foggara*, and a hoe. He provides half of the seed and advances 25 kilograms of wheat, which will be paid back at harvest time; he pays for enriching the land (*tiksal*= virgin land). The gardener *hartani*, for his part, agrees to furnish half of the seed and one year of work.

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/70 cont./ This /second/ contract system would appeal very much to the Tuareg, carefree by nature, improvident, and rarely possessing the necessary grain for the loans to the khammès. However, it is very little favored by the harratin, who prefer to have the advance of millet furnished by the proprietor under the first contract system, the right to the personal guemouns and to the gleanings, not counting the little daily thefts.

It is quite evident that these are Draconian contracts for the cultivators, who merely exist and are at the mercy of a bad harvest. The Targui may, thanks to his herds and to barter, survive several lean years, but the hartani cannot. It it not unusual to see the latter get through the period between the depletion of the winter reserves and the new wheat harvest by eating crushed date pits, young shoots of tahli, and sometimes even barley and wheat in the blade.

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Land is seeded according to the amount of water available. When the output of the foggara is low, the cultivated area is restricted. It even happens, after several dry years, that the water table in the wadi shrinks to the point of disappearing. The gardens are then abandoned, the agricultural center deserted. The /71/ cultivators withdraw to a more favored village. When the rains bring up the water levels again, the dead centers may be worked once more.

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The land is almost never manured in the Ahaggar. A system of preparing the land called "tiksal" in Tamashek is preferred. Each year the hartani gathers a clayey soil from a slope near the gardens. He carries this back, basket by basket, and spreads a thin layer on each guemoun. This virgin soil reinvigorates the cultivated land, which is quickly exhausted because of the irrigation; it contains almost no humus or limestone.

Sometimes, when the distance is not too great, the gardener brings the soil from an old root system of a dead fersig /tamarisk/ or tahla, the only humus to be found.

/71 cont./ Irrigation is the main problem here. It is solved by a foggara called "efeli" in Tamashek (plural: "ifelan"), which doesn't at all resemble the foggaguir of the Tidikelt and the Touat, which are permanent and require a great deal of work. In the Ahaggar the foggara is, in effect, nothing more than an underground séguia (irrigation canal) designed to tap the water of a wadi water table upstream from a cultivable plot; the water is channeled downhill following the most gradual incline to the gardens, which are irrigated by gravity.

The digging of a foggara involves several operations. First, a hole is bored upstream to reach the water and show its depth; then five or six wells are dug and are connected by an underground canal. This makes it possible to judge how large a flow may be expected. Three men work together: one digs, the other two stay at the surface, one on each side of the well, and lower a basket tied with two ropes on each handle. They throw the excavated soil to the right and left of the well.

Starting at the garden to be irrigated, a séguia is set up going in the direction of the wells upstream; this involves making embankments at first, and then further along digging into the ground as long as the alluvial soil will hold up without caving in.

/72/ Between the séguia downstream and the wells upstream other wells are then dug at intervals of five meters, connected by a tunnel. The work is done going in the upstream direction. A specialist arranges for the optimum grade following the usual practice; which calls for an ankle-depth difference between wells, or about two centimeters per meter.

When all these intermediate wells and tunnels are ready, the last tunnel (A), which connects the downstream system to the initial upstream wells, is opened. The foggara is then finished, and the water goes to feed the "majen," that is, the holding basin from which the irrigation séguias start.

/72 cont./ It takes one or two months to establish a foggara. Some of them (Abalessa) are six kilometers long, and the upsteam wells are ten to 12 meters deep.

When the flow diminishes, other wells are sunk upstream, but in certain agricultural centers, such as Ideles and Tahart, the bottom of the sand layer is reached, and the workers find themselves confronted with large rocks; the work then stops, as it is difficult to cope with rocks with a hoe and basket. There is nothing left to do but pray for rain to replenish the water table, or to emigrate to a more favored center.

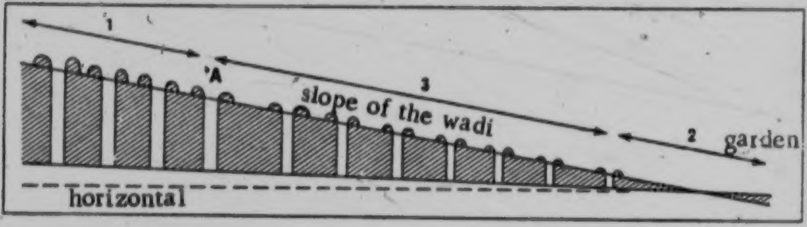

Diagram showing how a foggara is dug.

The work is dangerous in these foggaras sunk in the loose alluvial soil, and accidents often happen. The foggara requires continual maintenance work; blown sand dries up and clogs the wells, warping of land occurs which obstruct the flow, and cave-ins are frequent. In /73/ the event of a cave-in, a work party of volunteers pitches in to repair the damage rapidly in order to protect the crop.

The beneficial flood which makes the level of the water table rise also destroys the work of the harratin, by choking up a large number of wells; the foggara must then be reconstructed. At Tamanrasset recently was tried the construction of an underground drain made with small stones spread over larger ones and then covered with clay and sand, in order to permit the flood to pass without damage to the foggara. But the Negroes are not able to undertake this kind of work.

312 /73 cont./ The water flowing constantly from the foggara is accumulated in a basin 8 meters by 4 meters by .40 meters large; these dimensions give the approximate size. From this basin, walled in by earth levees and made watertight by clay, the gardener runs the water into the séguias, which channel it to the guemouns under cultivation, which are inundated.

This irrigation system rapidly exhausts the soil.

The crops are watered every six or eight days, with each of the six or eight gardens dependent on the foggara having its regular turn at the water.

When the irrigation is made from a well (tanout) instead of from a foggara, the water is drawn from the well manually or with the help of a zebu. When the majen is full, the gardener proceeds with the inundation of the guemouns.

241 The cultivable land, which is quickly impoverished, needs rest. The harratin let land lie fallow, but involuntarily, for fairly large areas remain uncultivated because of the lack of water or of seed. It even happens that, the land being exhausted, a center is abandoned for a certain time.

The plants cultivated in the Ahaggar are few: wheat and barley in the winter, millet and tomatoes in the summer in fact constitute most of the production and cover nearly all of the cultivated land. Kitchen gardening is negligible, and in many centers nonexistent.

In the Ahaggar there are five varieties of soft wheat, probably imported from the Touat.

The wheat is sown in October and harvested at the beginning of May. /74/ It is grown on small guemouna about 1.50 meters by 3.0 meters large. It is irrigated every six or eight days. Along the séguias, two parallel lines of wheat are planted. The yield varies from ten to 15 for one. It is about 300 to 400 kilograms per hectare. The total production of the Ahaggar is about 200 metric tons of wheat per year.

Barley is cultivated in the same way as wheat, but only 50 metric tons a year are produced.

241 /74 cont./ Millet is sown after the wheat harvest is finished. Two species are found, one called Ahaggar millet and the other Sudanese.

The yield varies from eight to ten for one. The annual production is about 60 metric tons. The ears are rather thick but are looted by birds, above all the Bengalis, called "mange-mil," which originate in the Sudan.

The tomato is the chief vegetable of the region. Several varieties are sown; there may be a native one, but the harratin have long used the seeds given by the commune. They harvest the seeds themselves indiscriminately; there may be some degenerate ones among them. There is usually a surplus production of tomatoes. They are sliced in two, then dried in the sun in order to preserve them for sale and for sending to the Ajjers, the Tidikelt, El-Goléa and, above all, to Ghardaïa. The method of cultivating them is most simple: The young plants are thinned out, haphazardly, at distances varying from 30 to 60 centimeters, depending on where the hoe happens to fall. When the tomato plants are grown, the guemoun is an indescribable tangle. It is a very rare gardener who puts up props for the plants.

Nearly all the native gardens have several pumpkins. There are two types, one called the Ahaggar pumpkin, which grows to an enormous size, is yellow, not very sweet, and is less esteemed than the variety called the Métlili pumpkin, which is smaller, greenish, and very wrinkled, and whose meat is much sweeter. The pumpkin constitutes the essential food during the month of October and even during November. [262]

Beans grow marvelously well, but only a few gardeners plant several guemouns of them.

/75/ Agricultural Centers

The Ahaggar has numerous agricultural centers, veritable oases, of unequal importance. The location of these gardens

241 /75 cont./ is always the same: in a living wadi, between
two rock shelves. They are to be found, then, within a radius
of about 100 kilometers from the upper summits of the Atakor.

The gardens string out along the wadi, using to the best
advantage the cultivable and irrigable land. An impressive
checkerboard of *guemouns* served by lines of *foggaras* and
séguias testifies to the industry of the *harratin.* The green
patches of early wheat among the grayish natural vegetation
make a curious sight; this verdure seems unreal. The
agricultural centers are always found in picturesque surroundings.
The villages have rare houses of *toubs* or of dried bricks,
[342] but more common are *tahli zéribas* /reed shelters/. Misery
there is endemic, and the word "destitution" takes on its
[511] most absolute sense here.

I have personally known families, one of them with
[262 nine children, who knew upon getting up in the morning,
511] at certain times of the year, that they had nothing to eat
during the coming day and that it would be the same the next
day and the days after that. Only the charity of one of their
fellows, scarcely any better off, would save them from
starvation.

It is true that lack of foresight is a determining factor in bringing about this destitution, but it is not the only factor; one must also cite the low fertility of the soil, the frequent lack of sufficient water, above all after a long dry period, the conditions of the agricultural contract which in effect prevent the *hartani* from developing a passionate interest in his land, and, lastly, the limited views and complete lack of initiative that characterize the *harratin.* It must be noted that the Tuareg are hostile to the development of agriculture; this hostility is scarcely a reasoned one; it is a matter of a kind of nomadic atavism, augmented by a desire to keep the traditional practices intact, and also by a fear of seeing the Ahaggar penetrated by foreigners who, undoubtedly, could make the land produce and, in particular, develop the /76/ palm groves, but who would not be hereditarily subordinate to their authority.

241 /76 cont./ In connection with the conditions of life in the agricultural centers, I shall reproduce here an extract from notes taken in 1949 during a tour I made in the company of the doctor at Tamanrasset. This year of 1949 was particularly dry and came on the heels of four long dry years.

"After having walked five hours since leaving the Tilokatine wadi, where we spent the night, we came in view of a charming little oasis situated in the Outoul wadi, which
241 has cut a bed through basalt rocks, columns of which are
621 seen along the banks. This was the agricultural center of Tahart.

[162
164] "There are 63 inhabitants, of whom 17 are children -- suffering from trachoma and conjunctivitis. Two foggaras serve to irrigate the gardens, as well as two wells with water drawn by oxen. The output of the foggaras is diminishing; the harratin have tried digging other wells at the head of the foggara, but they found large blocks of stone at a depth of three meters which prevented them from reaching the water table. A long and wearying work, with primitive means.

"There are about 100 palm trees, which give small, meager dates. Nearly all of the trees are encumbered with djebars; these harratin have no idea whatsoever of how to cultivate palm trees. Those trees that now produce grew from pits haphazardly cast in a garden.

"The only winter crops are wheat and barley; no turnips, no carrots, no beans, no other vegetables that could tide them over in the period between the millet and the wheat crops and that would permit them to let the cereal ripen.

"At this time nearly all the harratin are eating green barley and young tahli shoots.

"A brief calculation will show how insufficiently these cultivators are fed, although they do very hard work in a hard climate:

Year 1948.	Yield of wheat for Tahart	1,500 kilograms
	Yield of millet for Tahart	300 kilograms
		1,800 kilograms

241 621 /77/ or 1, 800 kilograms of grain to divide 63 times during 365 days, giving scarcely 100 grams a day per person, to which we may add three or four meals of meat per year.

"This year a green louse menaces the grain harvest; in summer a sort of 'mosquito' attacks the millet."

To complete these observations, one must add to the food listed for the harratin the very sweet tea they drink whenever they can, and it must be noted that this year 1949 was particularly bad.

If the wheat, set amid the arid mountains, gives an air of opulence to the village, the cultivator well knows that the production will be insufficient and that the fifth part of it coming to him is already pledged to Mozabite merchants to pay for the different purchases of the year. What to do? Go on farming, for such is life. This stubborn work to coax a little wheat from a hostile soil is most touching and merits a better success; but it would be necessary to educate these Negroes, and that is another story.

[361] Certain of these centers are temporary; the harratin abandon them when the soil is exhausted or when the water is no longer sufficient for irrigation; others are always occupied and under cultivation. The harratin merely cultivate smaller areas during dry years. In the permanent centers, the gardens have fruit trees.

In the appendix is the list of the principal agricultural centers of the Ahaggar.

Animal Raising

233 A land of nomads, the Ahaggar is a region of extensive animal raising. The pastures grow according to the chance of rainfall, and the Tuareg use them with due regard to the growth of the grass. The irregularity of the annual rains obliges the Kel Ahaggar to drive the majority of their camel herd to Sudanese territory, so that about 7, 500 camels graze

233 /77 cont./ in the Tamesna, while 4, 500 stay in the Ahaggar. /78/ The goats and sheep stay near the tents and find their sustenance more or less easily. The donkeys that live in freedom are perhaps the best adapted animals. Several zebus used for drawing water in the agricultural centers are poorly fed.

It does not appear that animal raising is destined to increase much, as the climatic conditions do not permit much enlargement of the herds.

The camel is indispensable to the Tuareg; without it they could not live in the Ahaggar. The Targui-camel partnership is seen throughout the region; it is necessary; it is part of the scenery. One sees the double silhouette outlined on the crests of the central plateaus, or tracing a network of paths on the black lava regs, or printing the sand with the parallel tracks of the Targui and the camel. This strange beast seems a holdover from another age; despite its antediluvian appearance and its stiff limbs -- only its neck is supple -- it manages to climb up slopes for grazing where man sometimes has trouble following.

As far as the camel is concerned, the term animal raising seems inappropriate. For the Targui the camel is his life; thanks to it, he is able to travel at will in the desert, make his commercial exchanges, and stay for months in a region without wells if the pasturage is good. The camel is his joy; it enables him to demonstrate his masculinity; it is also the object of his fears when it is sick or when it has disappeared after breaking its fetters, making it necessary for the Targui to follow its tracks for days in order to recapture it.

The camel also is wealth, the scale of values, the gift for a birth or a marriage; it is the noble animal.

There are about 12, 000 camels in the Ahaggar. It would be tedious to enumerate the wealth of each tribe, but let us note that the Dag Rali alone possess a fifth of the herd.

The Tuareg distinguish three races of camels: a race of the Ahaggar, one of the Sudan, and a race of the north called

233/78 cont. / "maroki." The Sudan camel is the largest, generally has /79/ a light coat, is strong and fast; when it is very fat, its hump becomes high; it must have plenty of nourishment and fares badly on poor pasturage. When it is in good shape, it can carry 200 kilograms of merchandise.

The Ahaggar camel is smaller but always has a nice bearing; its coat may be light, but many of these camels are dark. When it is fat, its hump does not rise much but overflows on the sides; a more frugal eater than the Sudan camel, it can get along on meager pastures. If it runs more slowly, it climbs better; its feet become overheated on the sand but will hold up on jagged pebbles. It cannot carry more than about 150 kilograms.

There are not many maroki in the Ahaggar. It is smaller than the others but much stronger; in comparason with them it seems awkward. It requires abundant food, but in exchange can carry up to 300 kilograms. Generally dark colored, the maroki has a thick coat.

233 192 The Tuareg vocabulary to designate the camel is rich, a proof of the interest in the animal. The generic term is "amis," "imenas" in the plural. "Amadjor" is also generic but is used in the sense of: "camel seen in the distance but not identified." The plural is "imoudjar." The female camel is called "talemt" (plural: "tillemin"); "timetirout" (plural: "timetterouin") means "pregnant camel." The newborn camel is called "aoura"; at one year it is called "ag aouatey"; at two years, "alloguès"; three years, "akanafoud"; four years (the teeth begin to grow but do not emerge), "araler"; five years (two teeth), "ag essin"; six years (four teeth), "ag okkoz"; seven years (six teeth), "Ammessedis̄"; eight years (two canines), "aoutahallat"; adult and old camels intermingle so that a Targui is incapable of saying how old camels live to be; some die young, some old, but the Targui never gives an opinion as to age, for that could be bad luck. [777]

/79 cont./ When the young camel is weaned it is called
233 "assaka"; when it is trained, one says "abal" or "amougui."
192 The stud camel is called "amali."

Generous with the names bestowed on the camel, the Tuareg are even more wordy when it comes to describing the camel's color. /80/ While green or bright red spread on a paper is poorly appraised, the imperceptible nuances of a camel's coat are distinguished in precise fashion; this is because the colors that we mentioned are abstractions, while the difference between two grays is concrete, being the difference between two observed, known, and perhaps loved camels.

The correspondence between the colors expressed by the Tamashek words and the French shades is arbitrary; another investigator could quite well give another scale just as valid.

White: beldedj; dark gray: iendjelan; fawn: iebramine; light fawn: atlar; fawn brown: ibazaouane; black: ikaoualane; black and white: azelraf; dirty-white: idegnassen; gazelle: ierrane; light gray: ibahouane; green tones: israfane; reddish white: ilemlarane; reddish brown: ihaggarène; between red and yellow: ietlarine; the one with the blue eyes: iouinaran; the one with the white mouth: imoulssan.

According to what an animal is used for or according to his merits, there are about 20 other names, a few examples of which follow:

Saddle camel: "amis ouan tarik"; pack camel: "amis ouan edjidji"; saddle camel for a woman: "amis ouan takhaouit." Tired camel: "yaddah"; wounded camel: "yakoder"; well-trained camel: "iounane"; a hard camel to mount: "irraguel."

There is no need to repeat here the characteristics of the
233 camel, its sobriety, its endurance, its fragility, too; let us
remember, though, /81/ that when it "drinks its fill," it
downs up to 120 liters of water.

In a moist pasture, whose grass is green, of course, the camel stays practically without drinking; when it is mounted or packed, having to undertake a journey across a strictly

233 /81 cont./ desert region or one lacking verdure, it can go for four or five days in summer and about eight days in winter without eating or drinking.

If the Tuareg have the reputation of being good camel trainers, it is because they begin training the camel when it is about two years old. The young camel is seized, and a "tiriouit" is passed over its mouth. The tiriouit is an arrangement of ropes which encloses the head something like a muzzle. A long rope serves as a rein; the trainer mounts bareback behind the nump, and does this for three or four days. The young camel begins to know the man, and then an "akala" is put on him; this is simply a rope securely tied to the lower jaw. A saddle is put on the camel for the first time, preferably the "tahlast" type, which is sturdier. For three months, the young camel is taught how to walk straight and to let itself be led wherever desired. The training is finished only after a year, at which time the "tiguemt" is inserted. This is the ring in the nose through which passes the "tarant" which finally classifies the animal as "assaka" or "amougui."

The training for pack camels is much simpler. The animal is fettered by the two front feet, a tiriouit is passed over its head, and it is attached to a tree by a very short rope. It is kept there for two days without eating, then is untied but not unfettered, so that it may find food by jumping in a ridiculous fashion from tuft to tuft. From that time, the animal is ready to be an "amis ouan edjidji." The female camels may also be trained at about the age of two years, either for the saddle or for the pack. The Tuareg only use them when their milk is dried up.

The camels do not breed at will, for the Tuareg select the males.

A half-bred Sudan-Ahaggar camel is preferred as sire.

/82/ The future sire must have certain well-determined physical characteristics; most particularly examined are the form of the legs, the length of the tail, and the size of the

233 /82 cont./ testicle sac; a large head is a favorable sign, as is a white coat.

[232] The Tuareg keep one male for 30 or 40 females; all the other males are castrated: "ennedi." The castration is done rather late in order not to interfere with the development of the animal, which will always be used as a mount or as a pack animal.

The sires having been chosen, the breeding takes place without control by man. The male pursues the female and obliges her to squat down, either by putting his neck on hers or by biting her foot. Females in heat sometimes solicit the male. The covering is made after the female has been brought to squat with the male behind her; his hind legs are completely folded, his pectoral callus rests on the female's back, and his front legs are placed along her breast to keep her prisoner. The covering lasts, it seems, half an hour; after two hours, the male can begin another covering. When all the females of the herd are impregnated, the sire grazes and rests for nearly three months.

The female camel carries her young for 12 months, sometimes 11; she bears one young camel (the Tuareg questioned have never seen twin camels born). A good milk camel gives six liters at each milking, but she is only half milked, the rest being saved for the baby camel, which begins to eat only at the age of about three months.

When the female camel goes to graze during the day, followed by her colt, she wears an "abedjo" over the udder so the young camel cannot suck. The abedjo is a sort of coarse net attached to the loins and exactly covering the udder (it is made with cord from fibers of tahla branches: "ikakaben," extremely strong and rough, which repulses the young camel).

Goats constitute a veritable fortune for the /83/ Tuareg. They are content with the meager pastures of the dry years; they graze near the tents, to which they return each night to sleep. They are seen everywhere in the Ahaggar, even in the places that at first sight seem the most bleak.

233 /83 cont./ The Ahaggar goat (a goat: "tirsi"; plural: "oulli") is small, lively, a good walker. It has long black hair, but crossing it with Sudanese goats gives offspring with black and white coats. Milk production is very variable according to the seasons and the abundance and quality of the pastures. A very good milch goat may produce nearly two liters of milk per day, a month after having given birth. The average production is about one liter a day for the two milkings. Goat's milk furnishes butter, "oudi amellen," which is cooked to preserve it: "oudi"; it also is made into the different cheeses (let us recall that camel's milk is used only for drinking).

It is estimated that there are about 20, 000 goats in the Ahaggar, although there may be more. The Tuareg keep one male for about 50 females. The Ahaggar goat bears one
[262] kid, sometime two, but very rarely. The male kids are always eaten young; they constitute the bulk of meat consumption by the Tuareg.

[283] Goat hair is used to make ropes of all sorts, and we shall see how the hide is used in making all of the Tuareg furniture.

Sheep raising is very limited; the number of head would hardly come to a tenth of the caprine livestock, and most of the sheep are found in the Tin-Zaouaten region.

The sheep raised in the Ahaggar is a native of the Sudan; long legged, it has no wool but long stiff hairs, generally fawn colored. Its meat is excellent. It is a robust animal, a good walker, but according to the Tuareg does not bear up well during the dry years in the Ahaggar, the pastures not being sufficiently nourishing. This sheep /84/ accomplishes considerable feats; the Tuareg drive flocks from the Adrar des Iforas to the markets of the Tidikelt and the A'ir in the Ahaggar. These migrations are carried out, of course, in the winter, but the regs crossed are truly poor in water points, and the pastures are sufficiently rare to make these journeys a remarkable exploit.

233 /84 cont./Ewe's milk is mixed with goat's milk; the hides are also used in all sorts of leatherwork. Mutton is considered [262] choice meat and is the preference for serving to an important guest.

The ox is imported from the Sudan; it is a zebu with the characteristic hump. It is used for drawing water in the agricultural centers. However, it can live in freedom in the wadis of the Ahaggar. The amenokal owns a herd which has gone wild: when he wants a beast, he must have it shot. The oxen eat the tahlis which grow abundantly on the rocky shelves of the wadis; they drink from the numerous gueltas. This ox is a sturdy animal capable of going from the Tamesna region to the Ahaggar across desolate regs.

Milk production is practically negligible, since there are at most 300 bovids /sic/ in the Ahaggar.

The hide is used to make the large dellous /skin sacks/ for drawing water and the bottas for keeping butter in.

The bull is called: "essou" (plural: "issouan"); the cow: "tessout" (plural: "tissita").

The donkey ("e'led"; plural: "ie'ldan") is, perhaps, the animal best adapted to the Ahaggar. The Tuareg say: "It eats everything, green or dry." It is of average size, with a rather light coat and a large darker cross on the back. The donkey [492] is used for camp chores; it goes to fetch water and wood. It carries nearly the whole load when moving; it is the mount of the women, children, and Negroes. Some travelers claim to have seen onagers in the Ahaggar; these were actually donkeys reverted to the wild state: the Tuareg, not being able to keep them near their camps because of the paucity of pastures, /85/ let them run free. Thus it is that herds of donkeys are seen in silhouette on the mountains or fleeing in the wadis as men approach. The donkeys drink at the permanent water points, and their habitual approaches to them are marked by narrow, well-trodden paths.

233 /85 cont./ When the Tuareg want to recapture some of these animals, they organize veritable battues and must use a great deal of cleverness and energy to succeed. It is necessary to break these donkeys in order to fit them for domestic use, for many of them are born wild.

It is estimated that there are 5,000 donkeys in the Ahaggar, but this figure is certainly too conservative.

[262] The flesh of the donkey is not eaten, nor is the milk of the female drunk.

A few horses, most of them originating in the Sudan, are to be found in certain agricultural centers. A "luxury" animal, the horse (aïs) cannot live off the Ahaggar pastures. When well nourished with barley, it bears the climate perfectly well and can be used as a mount in the mountains of the Ahaggar where water points are numerous.

231 Lastly, chickens are raised by the harratin in all the agricultural centers; they are lean fowl which find practically all of their own food. The harratin chiefly eat the eggs, [439] rather rarely the meat, which is sold to the Europeans.

/87/

IV
Material Life

Dwelling

342 281 The Tuareg, as true nomads, use the tent for habitation, and sometimes, in exceptional circumstances, the zériba.

The Tuareg tent is made of skins sown together and specially prepared. Its red tint, which harmonizes with the dominant tones of the Ahaggar landscape, is agreeable to the eye. For making the tent (éhakit), goat, sheep, wild sheep, and, very rarely, cattle skins are used; the skins of wild sheep are considered the best. After being stripped of its hair, the

/87 cont./ skin is lightly tanned with tamat or adjar leaves,
342 then smeared with butter to make it supple. After these
281 operations, the red tint is added in the following way:
"tamadjouhit," a sort of red clay, is mashed up with camel dung; with the powder thus obtained, the still greasy skin is rubbed until the desired color is obtained. The skin is then soaked in water for two days so that it may be stretched, smoothed out, flattened, cut, and sewed. The women of the camp undertake this last task; they all pitch in to work, joking, talking, and the work gets done at a good rate. One tent may have from 30 to 120, or even 150, skins. Strands of fine leather thongs, artistically cut, called "balenkassen," hang from the top, giving the inside /88/ of the tent a novel effect. The tent is supported by six vertical wooden stakes,
342 1.50 meters high, sticking about 20 centimeters into the ground. These vertical stakes are joined in pairs by three horizontal bars; the stakes are attached to each other with cords made from plaited goat hair. The tent rests on these stakes and is anchored at the edges by smaller stakes or large stones. The front of the tent, facing south, is generally open, and the sides are attached to tall, vertical stakes, the tops of which are often carved. On the inside the tent wall is lined with an "asaber," a kind of long mat made with stalks of "afazzou" (a grass). Making an asaber is a job requiring a great deal of patience; first the afazzou must be gathered with care taken to choose the longest stalks; then the stalks are assembled in pairs, being tied with previously prepared narrow leather thongs, with one thong around the top and another around the bottom of the stalks. The asaber is about 80 centimeters wide, with thongs wrapped around the stalks every three or four centimeters. The length varies from seven to eight meters, or exactly four times the height of a man with
[531] his arms upraised. The top border of the asaber is decorated with a band of leather interwoven with geometric designs. Two women take about a year to do this work.

342 /88 cont./ It takes three or four asabers to furnish a tent, two on the inside filter the wind, two others encircle the space in front of the tent, forming a small court, assuring privacy and a space sheltered from the wind, where someone is always to be found.

When one enters a tent, one sees that the right side is always the man's domain and the left side the woman's; each arranges his personal effects in an orderly fashion that is always surprising to the European.

About 50 meters away or more, but always within hailing
342 distance, live the Negroes in an enclosure of dry branches
361 called "afarra"; another enclosure next to it constitutes the kitchen.

A camp is made up of a number of tents of this type, /89/ with some distance between tents to preserve privacy.

During the dry season, when the search for pastures becomes compelling, the Tuareg are obliged to stop at a place near water, where the goats may find some meager pasturage. The black domestics then construct zéribas. They make a framework of forked branches, from two to 2.50 meters high, circular or almost so, with a diameter varying from three to five meters. Around and on this frame are attached tahlis (tiphas); the zériba then has an elegant appearance. If there are not enough tahlis, one gets along with other dry grasses, morakba, guettaf, etc.; the zériba then has a shabby appearance, but its merits as a dwelling are not lessened. In summer the zériba is much to be preferred to a tent, for it is much cooler.

The ground under the tent or zériba is always covered with
342 coarse sand from the wadi, which is frequently changed. A
356 hearth, consisting of four stones arranged in a square and imbedded in the ground, is used either to heat tea or to provide a little heat during winter evenings. Near the tents stakes
344 support the guerbas /waterskins/; one may also see the wood-
356 pile kept up by the Negroes and the big wooden mortar which
342

356

342 [354] /89 cont. / awaits its ration of millet, but one never sees any disorder or rubbish. A camp may have been at a site for a few hours or for several months, but on the day of its departure there is never the least broken object left at the place; the Tuareg leave behind them neither domestic refuse nor any other mark of their presence.

342 [592] The tent is occupied by the family in the most limited sense of the term. When a man marries he takes a tent and lives in it with his wife; children up to nine years of age stay with their parents, but after that they have their own tent.

In the agricultural centers the harratin lodge either in a zériba of tahli, made like that of the Tuareg, or in a house constructed with toubs or with stones held together with tin (clay). The house is covered with a coat of tin spread on a foundation of tahli supported by a framework of fersig or /90/ éthel branches; the roof is flat. The door generally opens toward the west, and there is a small opening to the east; this system protects the houses from the heat of the midday sun. Such a structure would be unhealthy in other climates; here it doesn't matter, the family lives outdoors. In winter everyone huddles together at night around a fire in the single room in order to keep as warm as possible, but all leave the house at sunrise. The floor of these houses is covered with fine gravel from the wadi, and this is changed fairly often. The vicinity of the hartani dwelling is much less clean than that of the Tuareg tent; ashes are scattered about and refuse dries in the sun.

000 Only Tamanrasset has houses used by Europeans. Toubs are always used to construct them, although recently atone plastered with tin has been tried for certain administration buildings. Up to now the lack of lime has hindered "hard" construction; attempts have been made to make lime from cipolin, but the cost per kilogram is nearly as high as for lime imported from Algiers.

000 /90 cont./ The thickness of the walls varies from one to three toubs, or from 30 to 90 centimeters. The grave problem is that of the roof, which is made in the local style with a coat of tin over a bed of tahlis or reeds; the framework is made from fersig and éthel branches, with an average length of from two to 2.50 meters. In order to obtain a big enough room, the ends of these branches must be rested on a large log or on a semicircular arch made with toub. It is not possible, therefore, to make rooms more than four meters wide because of the length limitations of the logs or of the vault's span; the room may be made as long as desired by stringing together the units from two to 2.50 meters wide.

Some administration houses have iron beams, which permits the construction of wider rooms and avoids a grave annoyance, that of finding that a beam has been attacked by termites. In order to discourage termites, the frame is covered with drainage oil.

/91/ The inside plastering consists of black tin covered with a layer of white tin or, preferably, with lime, which sticks better. The outside plaster is red tin smoothed with the trowel or grooved vertically by the mason's fingers, which gives a pleasing effect. This red color gives Tamanrasset its particular look. Very often a small flowering garden brightens a house. The houses of Europeans have several rooms, a kitchen, a court, and often a small vegetable garden; they are in general smartly kept up.

Migrations

361
166 The Tuareg only change their camps to find other pastures for the herds; when food for the animals becomes scarce within a radius of two to three hours' from camp, the head of the tent or subgroup, in agreement with the other members of the family, chooses a new site with good pasturage and, if possible, relatively near a water point. The imrad tribes make these

361
166

/91 cont./ changes only within the bounds of their territory. In order to use pastures on the lands of a neighboring tribe, permission must be obtained from that tribe's amrar, and in addition a fee must be paid, which may be as much as two or three goats. Only the nobles move at will in the whole country.

We have already seen that the female camels are sent to Tamesna in a dry year, and that they stay there until a rainy year gives the Ahaggar desirable pastures. There then remain in the Ahaggar only a few male camels and all the goats, which accentuates the region's desert character. In these dry years the men go back and forth between the Ahaggar and the camel herds, sometimes taking Negroes with them, sometimes young adolescents. The women stay in the camps. A change of tent site is carefully planned, because of the scarcity of water points. /92/ It is not unusual to see a camp remain nearly a year at a site which is not too unfavorable.

During wet years, there are abundant pastures practically everywhere in the Ahaggar, water flows in the wadis, the female camels produce a lot of milk; one would think that the Tuareg then would sojourn long in the same place -- but no, quite the contrary, the camps are constantly moving.

Tuareg custom holds that when the pastures are just beginning to grow, the camp must not remain too long in the same place; this is a wise measure which permits plants to flower and bear seed, but putting that reason aside, there is no rational explanation of that continual shifting of tents in a country covered with the best pastures. Is there here a manifestation of the nomadic spirit? A careful psychological study would have to be made in order to understand the reasons behind these moves, which have no apparent practical purpose and which the Tuareg themselves are unable to justify.

Yet moving a camp is no joke. Dismantling the tents is easily and rapidly enough done by the women, but looking for the donkeys, the loading, the packing of the objects constitutes a job which to a European seems enough to drive one crazy; thought must also be given to milking the animals,

361 /92 cont./ to the departure of the herds, to the means of
166 moving the old people and babies. The camp is hardly ready to move before nine in the morning, although the work has been in progress since sunrise. About three in the afternoon the caravan halts for the night; the animals must then be unloaded, the asabers must be put up, the meals prepared, the animals milked; and the next day everything begins over again.

There is one regular annual migration; when the wheat
166 and barley ripen in the gardens, it is April, and all the caravans
221 returned from the Sudan have stored their millet in silos --
361 then nearly all camps head for the agricultural centers. The goats are left in the desert in the care of the Negroes. Each little agricultural center /93/ then sees a gathering of the Tuareg, who come to supervise the harvest and live at the expense of the khammès, according to the provisions of the agricultural contract. This is a joyous period, and tendi and ilougan are held every day.

In connection with these migrations, it must be noted that the Tuareg do not act exactly according to the necessities of the climate: a dry period should logically lead to an exodus by the tribes toward Sudanese territory, where the herds would be better fed in virtually permanent pastures, and yet the tents and goats stay in the Ahaggar. Political reasons do not suffice to explain this contradiction between custom and the obligations of the climate. Perhaps this custom may be seen as the effect of long habit reinforced by sentimental factors. It is certain that away from the Ahaggar and their own territories of nomadization, the Tuareg are ill at ease; they show their delight on returning to their mountains. There is a saying that the Tuareg are great travelers but not great nomads; the essential reason for this remark is certainly the profound attachment they manifest for their soil, which seems incompatible with the nomad mentality.

361 /93 cont./ To sum up the migrations of the Kel Ahaggar,
166 let us say that they extend in a radius of about 100 kilometers,
221 within the tribal lands, but that the men may lead the herds, according to the times, toward pastures 1,000 kilometers from the family camp, and that an annual series of caravans sees them cover 15° of latitude.

The *harratin* cultivators are only sedentary on occasion; each year there is a large human movement from one agricultural center to another. There are three reasons for this: the Tuareg, owners of the soil, are no longer able to furnish the *hartani* with enough seed or to fulfill the agricultural contract; water bwgins to be lacking in a center, or digging *foggaras* becomes impossible; lastly, the exhausted land needs rest. It is thus that, from one year to the next, an important, well-cultivated center may become /94/ insignificant and even deserted. It appears to be impossible to establish a cycle for these agricultural migrations.

Tuareg Furnishings

352 Lightness and flexibility are the two essential qualities of
492 Tuareg furnishings. All of these objects must be transported on the backs of animals; weight, therefore, is the principal enemy; moreover, it is easier for the animals to carry loads capable of molding themselves against the animals' bodies.
415 Thus we find a whole assortment of sacks, chiefly leather ones, in the Tuareg equipment.

These sacks are tanned in such a way as to keep the leather very flexible; but the process employed is suitable only for extremely dry climates: transported to France, the Tuareg leathers seem to come alive again, they swell with humidity, then give off a disagreeable odor, and finally become unusable.

415 All of these sacks are decorated. Some are colored and
531 bear designs put on with dye or are decorated with tinted

415 531 /94 cont. / leather, and sometimes they are even embellished with motifs on cloth, accentuated with needlework in silk; others are made of natural leather, adorned with frayed leather thongs, for the main principle of decoration for everything carried on a camel's back seems to be to lengthen the lines in order to make them harmonize with the silhouette of this amazing animal. The decorative motifs are many but always linear; the circle, as well as the arc, is used, but the straight line dominates; there are no arabesques, no complicated curves; triangles, squares, rectangles, even trapeziums and diamond shapes are used. Red is the chief color for leather, but a wide range of other colors, artistically used, makes possible some pleasing effects; delicate greens characterize the work coming from the Sudan, pure whites are set in blacks, dark greens, and browns, different tones of yellow cover large surfaces. Then, slight grooves in the dyed leather produce interesting effects.

492 /95/ The sacks are secured on the animals by numerous cords. These are plaited with goat's hair. Making all these fittings takes unimaginable time and patience. Such a task cannot be thought of except in relation to a nomadic tribe.

An interesting study could be made on Tuareg decoration, comparing it to that of certain Indian tribes of America; one thinks in this connection of the hypotheses advanced by Commandant Cauvet in Les Berbères en Amérique /Berbers In America/.

352 Here is a list of the various objects to be found in a Tuareg tent, undoubtedly an incomplete list, for the most familiar objects are the easiest to forget.

The woman, mistress of the hearth, owns her personal effects. The wardrobe bag, a large rectangle 80 by 60 centimeters at the top of which is an opening 30 centimeters high by 50 centimeters wide, is called "agherredj"; clothes are kept in it. Some of these agherredj are magnificent works of art.

352 /95 cont./ The other sacks belonging to the women all have the same shape. The "guerfa" is smaller than the agherredj; the "tarerrat" plaited in goat's hair is not seen as often.

The "adhaboun" consist of a whole series of small sacks of the most varied forms with a solid frame of plaited palm or sometimes of wood; small objects are put away in them: 422 jewels, perfumes, remedies, etc. All of these sacks are 414 generally closed with the famous Tuareg padlock, only a token lock, but always respected.

492 Rich women possess a special saddle called "akhaoui" or "takhaouit" according to its size, kept in a corner of the tent. It is an extremely curious assemblage of three types of wood (tehounek, rose laurel, tabrakat), each piece of which is chosen according to its use, shaped, cut, and decorated. The different pieces of the takhaouit are bound together with leather; it takes years to bring together branches that can be used, this work being almost always done by the women. The "ha'lf" is a strap /96/ that secures the saddle to the back of the camel; plaited in goat's hair, it measures five centimeters wide and three meters long; one end is adorned with an enormous pompon 50 centimeters wide and sometimes weighing more than three kilograms; embroidery in red and green wool gives a sumptuous air to the pendant, which reaches nearly to the ground when the ha'lf secures the saddle.

A richly decorated takhaouit has other pompons symmetrical to the ha'lf; these are the "tidarsiouin."

352 The feminine rug par excellence, which covers the tarraouit during a trip, comes from Timmimoun and is called "tagamdafest"; it has large black, red, and green bands, and, in the middle of it, tufts of yellow, black, and green wool.

Let us add to the objects belonging to the woman the 415 "sendouq," a kind of small box in which sugar and tea are kept; the name, of Arabic origin, seems to indicate that it is of relatively recent importation. The "tesenit" is a palm-fiber basket in which kitchen utensils are kept.

492 /96 cont./ The man, when he is elegantly turned out -- and all the Tuareg want to be elegant when on camel back -- has a "djebira" (a large sack made in the Sudan) with splendid decorations in leather, dominated by whites and delicate greens. To save wear and tear on the decorations, the djebira is always carried inside out, but is turned right again upon approaching a camp.

The linen is put in a large dyed-leather bag decorated with lines: the "echchekoua," which is padlocked. The "tchekouat" ("dabia" in Arabic) is smaller, the "tesoufra" holds milk and is not decorated, for the dyes are not fast to moisture. Tea and sugar are kept in small sacks called "etfadoul."

The "tarik" ("rahla" in Arabic) adorns the corner of the tent reserved for the man. The camel saddle is well known; there are several types: the "tamzak," made in the Sudan and the most prized by the Tuareg, is ornamented with designs in green leather and has a characteristic cantle, the back of which is fixed with a whole system of metalwork. The "akoka" is also a good tarik, respectable enough to ride on; its black /97/ and red colors make it more subdued; it is also supposed to be sturdier. The "taïast" has no cross in front; it is made of decorated wood and is very solid; it is suitable for training the animals, but an elegant man does not use it for traveling. In order to protect the camel, the tarik is placed on two or three small square rugs, the "sadfar," measuring about 50 centimeters; they have bands of blue and white cloth forming geometric motifs; they are lightly padded with old cloth.

To adorn the camel, the Tuareg place a rug called "taouart" on the seat of the saddle; the rug comes from either Fezzan or Ghardaïa. The saddle girth (haïf) is as heavy as possible. The "rezama" (Arabic) ("tarant" in Tamashek), which is used to guide the animal, is made of plaited leather [825] ornamented with colored thongs; it is said that a tarant made from hyena hide makes the animal go faster.

492 /97 cont./ For he who wants a particularly well-equipped animal, there is the "cascabou," a sort of copper fitting with pendants and little bells which is fixed on the camel's nose, giving the beast a proud appearance and classifying the owner.

The things owned in common consist of, first, the "abaior" used as water containers; these guerbas are made of goatskin or sheepskin. The "tamhit" ("mezoued" in Arabic) are used to carry grain. Butter is made in the "edjiouer."

415 We already know the use of the tendi /mortar/ and the pestle (iharen). Fixed or turning millstones called "tahount" are used near the agricultural centers.

The "terahout" is the hemispheric dish; there are several sizes. The "tesoukalin" are the small spoons; the large ones, often pyrograved, are called "temoulalt." The metal or baked-earth pot is called the "terrirt." Everything used for making tea has an Arabic name: the kettle (ralleye), the teapot (béred), the glasses (el kissan), and the tray (el tabla). The trivet is called "isseguida."

/98/ Clothing

291 The grand bearing of the Tuareg, which so impresses the visitor arriving in the Ahaggar for the first time, is largely due to the clothes he wears. The silhouette of the "men of the veil" becomes familiar. The fullness of the clothes and the lightness of the cloth, which favors harmonious drapings, seem to exaggerate the size of both the men and the women. European traders who give free rein to their imaginations are numerous; they speak of blue phantoms and indulge in comparisons as unreal as they are evocative. Here we must strip the Tuareg of this poetic aureole. Let us begin by the trousers, called "iqarbi" ("sarroil" in Arabic). Very full and not creased, the iqarbi has a hem at the waist which permits use of a plaited leather belt called "tamenalt"; there is no pocket. To make it, cloth 1.50 meters long by 1.40 meters wide is used. It is often made of black sateen or chegga.

291 /98 cont./ The fullness of the sarroil is indispensable for camel mounting, sitting on the ground, or sleeping.

The "éressoui" is an immense gandurah of tari (a blue cloth impregnated with indigo, which rubs off to give the Tuareg his characteristic skin tint) or of mahmoudi (white cotton fabric). The width of the gandurah must be more than the reach of the arms, or generally three lengths of cloth, about 2.40 meters. The éressoui is slit almost all the way down the sides and has an immense pocket fixed on the left-hand side of the chest. It contains eight meters of cloth 80 centimeters wide. Ordinarily, the Tuareg wear a blue eressoui over a white one; they gather on the shoulders the excess of cloth that would normally hang on the arms, giving a blue-white contrast of very striking effect. The arm is uncovered to reveal the bracelet of carved stone (serpentine) called "habidj," which is used as a defensive weapon in a fight.

A gandurah identical to the éressoui but made of cloth from the Sudan is called "takamist n'kora." /99/ This cloth is made of small bands one centimeters wide sewed together. The blue dye of the takamist is particularly prone to adhere to the skin. The Tuareg wear this article only on festive occasions, for it is very expensive.

The "tameskinout" is also a gandurah made from cloth made in the Sudan, but with bands from four to five centimeters wide. This very expensive garment is found much more rarely.

Another gandurah called "rati," which is worn only on grand occasions, has stripes of violine and beige tints; it is adorned with embroidery, forming circles on the back. The large chest pocket is also embroidered. "Taguelmoust" is the name of the brillant blue veil with carefully studied folds which hides the faces of the Tuareg and which novelists have named "litham," a word unknown in the Ahaggar. The size of the taguelmoust is generally 3.50 meters by 0.25 meters. The weaving of the Sudanese type resembles that of the

291 /*99 cont.*/ *takamist* with one-centimeter bands. Judging a *taguelmoust* is difficult for a European; factors are the number of bands and the quality of the blue dye, which, when the cloth is new, is so brilliant that it looks like carbon paper. The *taguelmoust* is washed only after long wear, and can then no longer be used during a ceremony. The way he arranges his *taguelmoust* classifies a man, permitting initiates to distinguish between the tribes. The *chèche* /long scarf/, white or black, worn more and more, is an Arab importation; it has the advantage of lasting longer and costing a lot less; 4. 0 or 4. 50 meters are needed to obtain the desired effect. Some Tuareg get very nice effects arranging the *chèche* and the *taguelmoust*. Without going into the hypotheses which have been advanced to explain why the men started wearing the veil, let us say that it is the custom with the Tuareg and note that it is indispensable to wear a veil when traveling in the desert; every Frenchman who travels by camel or on foot quickly realizes that he must follow this custom or see his face take on the appearance of a lizard's skin. The *taguelmoust* /*100*/ has the advantage over the *cheche* of depositing a layer of greasy dye on the skin, which prevents chapping due to the dryness of the air.

The Targui's footgear is the *naïl* called "*ighatimen.*" Its rounded form is well known. A leather thong passes inside the big toe, two leather bands cover the foot and are sewn nearly as high as the heel. The sole consists of three thicknesses sewn together by one or several lines of stitches. Designs of pleasing colors decorate the different *naïls* and make it possible to tell where they come from. The *ighatimen* are made in the Sudan; the best known come from Zinder or Tahoua.

The mountain tribes -- Dag Rali and Adjouh n'Téhélé above all -- make *naïls* of a special type called "*imarkaden.*" The tip is straight, slightly wider than the foot, and the heel is also straight, while the sides curve in toward the arch.

291 /100 cont./ The layers of leather may be a centimeter thick; the sewing of the leather with large stitches permits decoration. A long thong connects the leather buckles sewn on the sole and is tied over the instep. The elegant footwear is the "ighatimen."

293 A description of the Targui's apparel must include all of the objects he wears including weapons.

The "taralabt" is a leather wallet hung from the neck. An ingenious system of grooved closings keeps it from opening; it is always black and artistically decorated with yellow, green, or red stitching. Numerous inside pockets serve to hold the mirror, the "tazolt" (eye blacking, sometimes kept in a special case), the "chemma" (chewing tobacco), the "kelbou" (natron used to make tobacco milder), personal papers, and sometimes money.

Amulets called "tera" hang from the neck by a leather string; these are small leather rectangles containing either papers written by a taleb /public scribe/ or magic products protecting against sickness, the Kel es Souf /genii/, and misfortune in general. Each Targui is abundantly provided with tera, which make his life bearable.

293 /101/ The "iremdan" ("menguech" in Arabic) is an in-
752 dispensable instrument; it consists of a cutting blade, an awl,
296 and small pincers (something like eyebrow tweezers) These
blades pivot around an axis; a ring makes it possible for the iremdan to be hung, but it is often carried in a special case. This tool is in turn a surgeon's kit for pulling tahla thorns from the soles of the feet and a cobbler's tool for repairing nails /sandals/. A Targui never undertakes a trip without his iremdan.

301 We have already mentioned the "abidj," or polished stone bracelet. The "tissak" is a small silver ring without artistic value. The key to the Tuareg padlock, which is often suspended on the chest, is a much prized ornament.

411 No Targui undertakes an important trip without his "takouba," the sword worn at the side which gives that

411 /101 cont./ medieval look to the Tuareg, making them look as if they have emerged from a picture book. There are takouba and takouba; some are worth two young camels and are recognized by the grooves on the blade and the mark made by the maalem /craftsman/. The first-rate takouba is called "tazraït"; it has five grooves on the blade and a disk whose vertical diameter is topped by a cross; a tazraït should sever a camel hobble buried in the sand so that only five centimeters are showing. The "arlal" type has no groove but bears the same mark as the tazraït and is an excellent takouba, just as highly regarded as the latter. The "talit," worth substantially the same, does not have a groove but has the same mark as the tazraït, supplemented by a stylized lion. An "inaseri" costs half as much; it has three grooves and bears a crescent-shaped design with three points directed toward the center. The "tabloq" has a long central groove and is decorated with the silhouette of a lion; it costs the same as an inaseri. The "adadiglen" has never been carried by a coward; it is worth the same as a tabloq, has a long central groove flanked by two small ones; on each side of the large groove are two K's back to back. The "elghenihe" is a much rarer sword, although worth only half as much as an adadiglen; /102/ it has a single cutting edge, three large grooves, and a crescent with a point directed toward the center. The "tama," much more common, is worth scarcely half as much as the elghenihé; it can be recognized by its central groove, two small parallel grooves, and two crescents with only one point directed toward the center. There are other types of takouba of recent make; they are sometimes copies of the old blades but are easily recognized. Some old takouba do not bear distinctive marks, and one must be a true connoisseur in order to appreciate them.

One still sees Tuareg who carry the iron spear, the "allar," which was a throwing weapon for short distances. It is about 1.90 meters long. The spear is carried less and less. For hunting the wild sheep, a sort of javelin is used, the point and heel of which have the same shape as those of the spear; this weapon is called "tarrada."

411 /102 cont./ Let us mention for the record some weapons that are no longer carried: the "tilok," a magnificently decorated daggar held on the forearm by a leather bracelet; the "arrar," a shield of antelope skin, white, decorated in the middle with designs and metal trimmings; this large rectangle with rounded points gave the warriors a most impressive appearance. These shields are no longer to be found.

291 To finish with men's dress, let us note the "tabroq," a blanket coming from Timimoun called "dokali," worn on very cold days, which makes the Tuareg resemble certain American Indians.

The Tuareg women ("tamat" -- "tidedin" in the plural) wear clothes which in many ways resemble those of the men. They are not veiled, but when a stranger is presented to them, they hide their faces out of sheer modesty.

Like the men, they wear a long gandurah of tari called "erressoui," but the opening on the side is no longer than 30 centimeters under the arms. There is a white erressoui worn under the blue one. The woman also has a "takamist n'kora" that she puts on during a visit or for a fistive occasion.

/103/ She wraps herself in a large rectangle of tari, three meters by two, called "afar." The padlock key is tied to a corner of the material and serves as a counterweight when the afar is thrown over the shoulder.

The "ikaral" is the shawl for the head; when it is made of taguelmoust cloth, it is called "alechou"; it measures about 1.50 by 0.50 meters. During an ilougan, which is a kind of tournament on camel back, a rider snatches the alechou from a woman and flees, chased by the other Tuareg, who attempt to recapture the veil. The victor is highly regarded.

The "tabarikant" is a very large veil, three by two meters, whose very clear rose color gives a most happy effect; imported from Tripolitania, it is of very finely woven wool. The tabarikant is becoming more and more rare; it is handed down from mother to daughter and is worn only for festive

291 /103 cont./ occasions. The "ra'lki" is another veil, as large as the tabarikant and made of wool, but white; it is also very rare.

The Tuareg woman does not wear a sarroil but a kind of knee-length skirt, a simple piece of cloth tied around the waist, called "assedjebès." Young girls begin wearing assedjebès when they are nubile.

The woman wear ighatimen for footgear, carry tera, and all have a taralabt slightly different from that of the men. The iremdan is often carried without a case. In winter the tabrok (dokkali) is also a feminine garment.

[854] All of the young children are naked; later they put on the blue gandurah; the boys have a sarroil toward the age of eight or nine. At about fifteen, they begin to wear the veil.

Food

262 The Tuareg are particularly frugal eaters, and their condition of life does not predispose them to a finely prepared cuisine. Tuareg food has nothing about it to flatter the tastes of a gourmet. The few /104/ dishes palatable for a Frenchman have been borrowed from the Arabs and will not be mentioned here. [177]

The basic elements of the Tuareg diet are: millet, milk, and dates. Millet (enelé) comes from the Sudan or is harvested in the Ahaggar as a summer crop; the latter, whose grain is smaller, is better liked but is insufficient in quantity.

252 Millet (the "bechena" of the Arabs) is crushed with a pestle and winnowed to keep only the white flour. This flour is sometimes eaten just as it is after crushing: this is the "tibik" used on the trail by the hurrying cameleer, and it is sometimes used even in camp.

Also called tibik is a more complicated preparation: millet is crushed, winnowed, then washed and put in a tarahout. Heated pebbles are buried in the grain until it become slightly cooked or rather roasted. The progress of the

252/104 cont./ cooking is determined by the pleasing odor that comes from the dish. This grain is next ground together with dried dates. The powder thus obtained is eaten without further preparation.

The "arahara" has a more complicated recipe: crush the millet so that a very fine flour is obtained, crush some dates, and add a little water to form a paste, crush some "tikamarin" /cheese/; mix flour, date paste, and cheese powder together; add a lot of water until you have a liquid resembling milk. Drink cool in summer.

"Asink" is the Tuareg national dish: crush millet so that you have half of it in fine flour and the other half in coarse grains; separate the grains from the flour and pour the former in a pot of boiling water; cook for two hours until the bloated grains form a rather liquid gruel; pour the flour into the gruel, stirring the mixture with the "esseroui" (a wooden paddle used especially for the asink) with the pot still on the fire; obtain a rather thick consistency, dish into the tarahout, add milk if possible, and serve hot. When there is no milk, butter may be added, or the asink may be eaten as is.

[272] /105/ Milk, another basic food, is drunk whole as soon as it is drawn, or is mixed with sour milk, or blended with whey. To make butter, milk is poured into an "adjiouer" (the "chekoua" of the Arabs) and sits for a day, preferably in the sun, causing it to sour rapidly. The sour milk is then poured into another chekoua, which is stirred until a ball of butter is obtained. The sour whey left in the chekoua is drunk during the day.

[262] Fresh butter ("zebda" in Arabic) is called "white butter" (in Tamashek: "oudi oua amellen"); it is soon eaten, but only a small amount. Most of the product is transformed into "dahan" (Arabic -- in Tamashek: "oudi"), which can be kept a long time. White butter, with a small quantity of dates added, together with a few grains of wheat or millet and

252 /*105 cont.*/ several stalks of a plant called "*aïnessis,*" is cooked for a very long time. When it is ready, it is poured into the "*tahatiat*" or the "*arraïan*" for keeping. The *tahatiat* is a kind of *guerba* /waterskin/ made with skin from a camel's neck and still has the original curved shape. The *arraïan* is shaped like a demijohn; it consists of a piece of camelskin molded in a hole dug in the ground, filled with camel dung and gravel, tied securely at the mouth by a cord, and thus dried and hardened.

415

"*Tikamarin*" is a cheese made from whole milk in the following way: a young goat is killed and its stomach, still full of milk, is carefully kept; the milk is allowed to harden in the stomach pouch, then is carefully preserved. A piece of this "seed" cheese, about the size of a gaming die, is plunged into a *tarahout* containing five to eight liters of milk. After a day the milk has completely curdled. A lump of this cheese, still damp, is crushed in the hands, previously washed, and made into slabs about 15 by 5 centimeters. These slabs are arranged for drying on a bed of *afazzou* stalks. *Tikamarin* is eaten dry; it is kept over a year, and it is said to be still edible after four years.

/*106*/ "*Ioulsan*" ("*qlila*" in Arabic) is a cheese made from the sour milk left over from kaing butter. This sour milk is poured into a pot and is heated for a long time. The contents of the pot are then poured in a special filter, a kind of *afazzou* basket; the water drains off and the remaining cheese is then fashioned into small circular cakes, six centimeters in diameter and two centimeters thick. *Ioulsan* is quickly eaten, but it can be kept dry and is used, above all, in making the *argira* which is eaten in the summer.

262 The Tuareg like meat very much, but they eat it relatively infrequently; yet some Tuareg say that one should not let ten days go by without eating meat.

The most used meat is goat; mutton is eaten less often, and camel in exceptional circumstances. The meat of

262 /106 cont./gazelles and wild sheep is much esteemed, particularly since it costs nothing, but having it depends on chance. The hare is eaten only by children or Negroes. Birds, wild or domesticated, are not much liked.

252 Meat is eaten boiled or grilled, always well done. The Tuareg mechoui /roasted sheep/ is called "abatoul" (hole). A hole is dug in rather coarse-grained sand, and a large fire is built in it. The embers are then removed from the hole, and the dismembered animal, well cut open, is placed in it, without butter or spices. The meat is then covered with sand, and a fire is maintained over it for two or three hours. The meat is then pulled out, is strongly hit with a stick to knock off the grains of sand, and is ready for sampling.

262 251 Practically speaking, the Tuareg never eat green vegetables; they keep dried onions (tarafaret), which give some taste to their dishes; dried tomatoes, abundantly produced in the Ahaggar, are also used.

Wheat, rather seldom used, makes it possible to make couscous and flat cakes called "taguella." The Tuareg also make taguella with millet flour, but these are truly awful.

262 /107/ It is well to note the scruples of the Tuareg so far as Islamic food taboos are concerned.

They continue, in fact, to eat their traditional food, and it happens that their custom fits in with Moslem regulations.

To amuse themselves, children eat "tilout" and those large lizards called "dobs," which they grill on glowing embers. They open the stomach and eat little pinches of the flesh cooked in the skin, somewhat as one would eat a soft-boiled egg.

Chicken eggs are not much liked; children accept them, but they prefer dob eggs.

The daman, called akaokao, a wild little rodent of the granite hills, is eaten only by the Negroes.

European food has not penetrated the tent, so to speak; only patés are liked, but the Tuareg do not yet go so far as to

262 /107 cont./ buy them. Rice is considered to be a remedy. In the way of preserved foods, one may see the Tuareg eat sardines in oil and jam and use canned milk. All of these foods are not accepted with enthusiasm; they are too expensive, [181] and the Tuareg seem to be truly conservative in food matters, as well as in the whole of their customs.

They drink water, milk, and tea, the latter being of 272 relatively recent importation but in the way of becoming a necessity. There is no need to mention again the ritual that surrounds the making and drinking of tea.

Coffee is scarcely drunk except with the French; when it [273] is taken in the tent, it is as a remedy. Need I say that the Tuareg drink no alcohol and that at the present time there is no exception ot this rule?

Public Health

It appears to be practically impossible to construct a 161 demographic table for the Ahaggar: figures for the years /108/ before 1947 are rare and suspect; they give an acceptable approximation but do not give an exact picture of population movements.

In this field one must then use figures from recent censuses and observations of the tribes that may be easily visited in trying prudently to project these observations to the whole of the population.

In 1948 the count was:	6, 048 nomads
	4, 240 harratin
	10, 288
1949	6, 013 nomads
	4, 285 harratin
	10, 298

The population figure for the Ahaggar seems to be fairly stationary (even if one does not rely exclusively on the figures

161 /108 cont./ cited above). The birth rate is not very high, but it is greater than the low death rate. Infant mortality is practically impossible to verify.

162 In 1948 there were 1, 028 men counted for 1, 202 women,
which would seem tosupport the widespread opinion that relative to other peoples there are more men than women among
the Tuareg. One must be careful, however, not to make this
type of affirmation without having previously examined all
the causes that may produce such a state of affairs. It is al-
162 most certain that the Tuareg control their birth rate. The
847 chief of the tribe may forbid births or may recommend them
according to the number of members of the tribe. This
measure seems wise in a country which can scarcely support
the existing population. The situation is such as it would be
if the Tuareg had found, empirically, the ideal number of
individuals able to be supported by their soil and were wise
enough to try to maintain this number.

The men interrogated on this subject avoided the question, saying that this concerns their women and that they do not know the methods employed. The women are equally reticent, not to say mute.

/109/ Some of them claim to abort by drinking decoctions
of plants. The French doctors know the qualities of these
plants and think that this medication would be insufficient to
produce the desired effect. By being patient, I was able to
learn a method which, although dangerous, should be effective;
I got this information from only one woman and have never
been able to confirm it, as it is difficult to touch on these
subjects directly. The women supposedly use a probe that they
make from a "stone" called "azarif" ("cheb" in Arabic),
which is of alum; they make this the size of a slate pencil.
162 This probe dissolves after having produced a mechanical effect.
165 It is likely that many women fall victim to these maneuvers,
847 for in questioning the Tuareg one discovers a rather high female
mortality rate at a relatively young age. Perhaps we may see

162 /109 cont./ here the cause of the greater proportion of men
165 to women.

847 The most widespread disease in the Ahaggar is undoubtedly malaria, most often contracted in Sudanese territory and
164 spread in the Ahaggar, where anopheles are numerous in the agricultural centers and at all the permanent or temporary water points. Professor Rémy of the faculty at Nancy has found them in the Tarahouaout tiggert /outflow of water/, at the In-Ezzebib guelta /pool/; the doctor, Captain Galan, has collected them in the Afilal guelta at an altitude of nearly 2, 000 meters.

Pneumonia and its pulmonary complications wreak the most havoc among the Tuareg; this is due to the winter cold, which is ill borne in too thin clothes.

[73] In 1949 an epidemic of measles took on the aspect of a catastrophe through its pulmonary consequences.

Venereal diseases are very common among the harratin, rarer among the Tuareg.

A distressing disease of the agricultural centers is trachoma, aggravated by every type of conjunctivitis transmitted by the flies that swarm and cluster around the /110/ eyes of children. The Tuareg seem immune to diseases of the eyes; they rarely have trachoma.

Smallpox, once so common and so feared, has practically disappeared, thanks to systematic vaccination. It was an unusual event to see two Tuareg return from the Sudan in April, 1951 covered with smallpox eruptions.

Tuberculosis does not seem to have appeared; skin tests made at the Tamanrasset school are negative for children born in the Ahaggar. There seems to be no manifestation of cancer.

Although the Tuareg are abundantly provided with lice, above all in the winter, as are the harratin, a case of typhus has never been known. Typhoid is unknown, as are diphtheria, tetanus, and poliomyelitis.

164 /110 cont./ The country then is sufficiently free of serious
114 diseases; one scourge, however, must be noted: malnutrition, described and well studied by the doctor, Captain Galan, in a publication of the Pasteur Institute of Algeria: Contribution à l'étude du problème alimentaire au Hoggar /Contribution to the Study of the Nutrition Problem in the Ahaggar/.

757 The Tuareg and the Negroes are beginning to like European medication and are coming more frequently to the
278 infirmary; they value above all aspirin, quinine (which is becoming a generic term for all pills), and penicillin. They remain faithful to their pharmacopoeia, chiefly based on plants, of which here are several examples:

Pulmonary diseases: strong pimento and rellachem /see Appendix, Flora/ are specifics; for pleurisy, one must melt camel fat with the taïnoust (fruit of the acacia), eat it as hot as possible, and constrict one's chest with a rope.

For the stomach, butter mixed with tahist.

In cases of diarrhea, takamezout is the sovereign remedy, taken in tea or eaten in leaf form. This takamezout has a great reputation among the Tuareg: it comprises, they say, 40 remedies, but will not heal broken legs.

Constipation is vanquished by adjardjar and taharadjellé. Headaches have no remedy, yet tea is /111/ to be taken in preference to anything else. The liver is treated with ihenmhad taken in milk. The victim of ganglions at the groin or under the armpit may easily make them disappear by rubbing them lightly with saliva very early in the morning; another method, more efficient, consists of heating goat dung and placing it on the nails of the affected member.

752 For an open wound, make a plaster with milk and powdered tassa.

Rheumatism is easily treated; a sort of well is dug, one meter in diameter and 1.50 meters deep, the patient gets in it, a cover is put on the well, and the patient is given an infusion of olaq to make him sleep. A spring called In-Ahadja exists which is supposed to be equally as good in treating rheumatism.

757 /111 cont./ Jackal meat, eaten with decoctions of
278 *rellachem* for three days, is the best remedy for gonorrhea;
cloves will aid in the healing.

Jackal meat is also used to cure syphilis, but in addition in the morning one must drink milk in which colocynth has been soaked; while this milk is being drunk, skewers of fat to be eaten afterward are cooked; clear soup is drunk during the entire day. After three days small, white granulations are seen in the stools, indicating the success of the treatment.

Smallpox formerly was treated in a sufficiently efficacious manner by digging a hole in the sand and heating it as if to make *méchoui* /roasted sheep/, although not so hot; the patient then lay in the hole and was covered with sand. After that there was nothing to do but wait.

The treatment for measles requires the patient to be kept warm, while eating hare, gazelle, or wild sheep meat.

Toothaches cannot last when treated as follows: fill the mouth with onion seeds, *ouzouaz*, wheat, and salt; keep these medicaments in the closed mouth for half an hour. When adolescents break out in pimples, which disfigure them, it is essential that /112/ onion seeds be burned and the smoke inhaled, which, it is said, makes all the worms leave immediately. Around a boil, apply a paste made of milk and powdered *tanzet* (a kind of Sudanese bean).

Magic Rites

789 This is a very difficult subject to treat, for the secrets
754 are jealously guarded by those who possess them and want to
profit from them, or are carefully hidden by those who know them in a disinterested fashion but who lack confidence in their questioner or fear reprisals.

The Ahaggar, situated at the frontiers of Islam and the black world, is without doubt impregnated with magic customs; the superficial Islamism of the population, which retains an

789
754 /112 cont./ underlying belief in genii, often not avowed but present, lends itself admirably to secret magic rites.

754 However, it seems that the Tuareg, although very superstitious, do not use maleficent spells, a specialty of the women of the Tidikelt, the Ajjers, and the Sudan. The most famous of the evil spells is the "borbor," chiefly the work of the Negresses.

The borbor acts in two ways: either it tends to poison an individual that one wants out of the way, or it serves simply to diminish the forces of someone one wants revenge against or that one wants to attract (in the last case, it acts something like a love potion). In any case the borbor produces its effects only over a long period of time; it is personal and is prepared for a specific purpose; to be effective, it must be administered cunningly.

It appears to be impossible to obtain an exact recipe for borbor. Here are the chief ingredients that enter into its composition; the proportioning is determined by a specialist.

The basic ingredient seems to be the brain of someone recently dead; it must be sought at night in a cemetery. The story is told of a woman who, having wanted to steal the brain of a recently deceased marabout, was found dead, struck down /113/ by the power of the defunct, and clutching in her clenched hand scraps of her theft.

Once obtained, the excipient is kept in a vase so that the elements effective for a given individual may be added. The list of these is long; let us mention all the external secretions of the intended victim: sweat, preferably from under the armpit; tears; earwax; urine; blood (preferably menstrual); semen. Also collected are hair, nail clippings, dirt from the arms and nails, soil walked on with the bare feet. All or part of these ingredients are added to the excipient, mixed, then cooked. This diabolic cooking is done at night by two initiated women, entirely nude. After a certain time, the pot rises in the air and revolves in the closed room; the

754 /113 cont./ women chase it, beating the air with scarves and reciting secret words. They act as if they were madwomen.

The borbor is incorporated into couscous, which, it is said, may be turned with a hand taken from a dead person, but I have had few confirmations of that practice. The borbor is administered by throwing it in the path the victim should take, if it is impossible to make him eat it.

Whether intended as philter or poison, borbor differs very little in its composition; only the quantities must differ.

When a woman wishes the death of a rival, she has another process at her disposition. Having managed to obtain some menstrual blood of the enemy, she goes to a taleb /public scribe/ who specializes in magic; the latter wraps the blood in a paper or rag on which he writes sacred words; he then throws the package into a permanent séguia /irrigation canal/. As long as the seguia flows, the blood of the rival will flow, and she will die of this hemorrhage.

There is an antidote for borbor called "bottal," a blackish substance that one throws on embers and whose emanations counteract the effects of borbor.

824 754 Two plants must be mentioned here which, without being fatal, cause momentary insanity, according to the Tuareg: first, "afeleleh" ("bettina" in Arabic), black henbane, (the antidote consists of gulping down camel meat or, better, /114/ camel fat); second, "bourzig," taken by women who want to gain weight, but which taken in strong doses induces temporary madness during which the victim spouts out an endless succession of words which she does not remember later.

754 Magic operations are most varied, and everyone can expect each day to be the victim of them. The Negroes are haunted by this fear; the Tuareg do not seem to be worried by these magic maneuvers. However, everyone wears "tera," [751] protective charms issued by the taleb; thus the Moslem religion, more or less deformed, fights against magic or, sometimes, collaborates with it.

754 /*114* *cont.*/ Belief in the evil eye is shared by the Negroes and the Tuareg: certain persons may by their words cause the worst calamities, induce illness, provoke accidents, make animals die. Happily, there are other persons who have the opposite power and who, by approaching a sleeper and placing a hand near his face, give him strength and luck for the day.

[777 83] In general women are carriers of bad luck in the morning; however, if an intimate lets her sex be glimpsed before a morning departure, luck will smile on the hunter.

Of one who has the evil eye, it is said in Tamashek; "*illé* *tahot.*"

[777 776] Who gives that good or bad luck carried by an individual and which may sometimes emanate from him? The reply to this question is: God, for, after all, these people are Moslems; but each one is persuaded that the genii, the *Kel* *es* *Souf*, as the Tuareg say, are agents of this suprahuman life. The *Kel* *es* *Souf* constitute a people of spirits invisible during the day, but who may appear to humans at night in the most varied forms. At nightfall comes the most favorable moment for the exploits of the *Kel* *es* *Souf*. All manifestations of natural forces are attributed to these genii: whirlwinds, echoes, floods of the wadi, cave-ins, a spontaneous fire in the dry grass. On the contrary, the mirage ("*eillel*") is not the work of the *Kel* *es* *Souf*.

/*115*/ He who hears or sees one of these genii is always troubled; he may become ill and even insane, for, if there are indifferent *Kel* *es* *Souf* (very few, however), there are no good ones. It is because of this that one must know how to protect oneself against them; this is ordinarily done by invoking God, by carrying talismans, and by always having an iron object with oneself.

The *Kel* *es* *Souf* like certain places and reside there in preference to others: deep ravines, in which they shower atones on the unfortunate humans who venture there, and caves, in

776 /*115* *cont.*/ the depths of which are seen their strange lights. The In-Tafeute *guelta* is peopled with genii; the Amadror saltworks abound with *Kel es Souf*, who make an infernal racket at night, breaking the salt, hewing blocks, robbing all sleep from the people who have come to work and who the next morning see no sign of this nocturnal activity. Certain high places, of which the most famous is Garet el Djenoun, are also favorite haunts of all this invisible world.

It is said that in former times some particularly powerful men were on friendly terms with the *Kel es Souf*, who had a language of their own. Two ways used by the genii to count up to ten are still told:

First way:	*Second way*:
1 -- Djoukhien	Dienana
2 -- Djouressin	Dessinena
3 -- Djettar	Makarkada
4 -- Djettouri	Matezoua
5 -- Alendiez	Souraten
6 -- Indiez	Sourataïni
7 -- Hamalou	Tiguemelguemal
8 -- Fellali	Teguedtassa
9 -- Terra	Nougomelli
10 -- Feck	Nourobelli

The misadventures of humans with the *Kel es Souf* are extremely numerous. Any Targui who has a little confidence in you /*116*/ will tell you of his and, excited by the subject, will relate those of others. There are classic tales, such as that of Titi.

773 Titi was a shrewd Targui who one night arrived at a wadi wooded with *tabrakat*. Dismounting from his camel at the place he intended to pass the night, he saw a woman. He greeted her and began to unsaddle his mount. As he unloaded a sack, the woman took it from him and placed it on the ground. He went to look for wood, and she went with him to help; he lighted his fire, she stirred the coals, this solicitude

773 /116 cont./ and this imitation of his gestures disturbed Titi, who guessed that this woman with the abundant hair was a Kel es Souf. He prepared his millet flat cake, and the woman repeated each of his movements. At that point Titi, seizing a firebrand, quickly ran the nonburning end through his hair; the woman imitated him but used the wrong end; her hair caught fire, she fled screaming, rolled on the ground, and rubbed against the trees, which caught fire. And ever since this adventure of long ago, one can see the remains of the tabrakat burned by the Kel es Souf in the Ouriren wadi.

Another Targui, when night was falling, spied the fire of a camp in a ravine toward which he directed himself. Hardly had he descended from his camel, when he was invited to eat. As he was very hungry, he shortened the customary salutations. Having sat down on a magnificent rug, he observed that the people were dressed as Tuareg, to be sure, but he could not determine their caste nor find any resemblance to anyone he knew. All of this seemed strange to him, but the strangest was to see the asink served in a golden terahout. He understood at once that this was a camp of the Kel es Souf. He seized the dish, bounded to his camel, which fortunately had not been unsaddled, and fled into the night. When he felt he had gone far enough, he wanted to look at the fabulous dish. Alas! It had disappeared, which proved to him that he had been the victim of the Kel es Souf.

787 Instances of clairvoyance are common with the Tuareg; this is chiefly the province of the women. It is related that during the raids of yesteryear certain Tuareg women knew /117/ the outcome of a combat which took place more than 400 kilometers away; a wife would see her husband wounded, a sister learned of the death of her brother, and the news would be verified upon the return of the warriors. This distant clairvoyance is still practiced today. Here are the two ways of going about it. At nightfall the woman endowed with this power washes herself meticulously and puts on her finest clothes.

787 /*117* *cont.*/ She goes to a "*debni*," a pre-Islamic tomb, lies down on the stones, and says the following words: "*Imeguedda enkerguedda*," the meaning of which is not known. Putting her ear to the stones, she may hear the news, certainly transmitted by the *Kel es Souf*. The *debni* speaks briefly, three times only, and it is not permitted to ask it questions.

The other process requires the sacrifice of a goat. The grass in its stomach is taken out and is made into one or several balls. When night falls the woman goes to a flat place away from all human presence; she throws the balls as far as possible, then lies on the ground and puts her ear against it. If the *Kel es Souf* are favorably disposed, the news arrives as briefly, but as precisely, as in the preceding method. This process is called "*tizomitin*." Methods exist to question Fate. They are called "*idjehan*" and consist of making dots on the sand whose exact number one does not know. The technique differs according to the manner of making the dots. It is something like the card game of patience, for the responses are either "yes" or "no." Some Tuareg know another method to obtain more varied answers, but the apprenticeship for this is long.

There are other superstitions, such as that which calls for
241 putting old cooking pots, or else the jaw of an ass, on view
in a wheat field in order to have a good harvest. Let us also
[262] mention the Negresses' custom of eating cat's thighs in the
month of March in order to gain weight.

All of these beliefs should be collected, but that would require long, patient work, which could not be carried out except in a climate of confidence.

771 /*118*/ One may say that the Ahaggar still lives in a world of magic despite the presence of Islam. This fear of spirits, which seems childish to an Occidental, is very real. "Imagination," Fraser says, "knows how to act on man with as much effect as does gravity, and may kill him with the same certitude as would a dose of prussic acid." The

771 /118 cont./ inexplicable repugnance shown by the Tuareg for certain foods or for certain behavior is nothing other than a manifestation of taboos designed to protect them against the spiritual forces loosed by the persons or things in their surroundings.

Perhaps it would be fruitful to study the customs of the Tuareg world in the light of the philosophy of the forces whose principles are set forth by the Reverend Father Tempels in his *Philosophie bantoue* /Bantu Philosophy/.

/119/

V

Life of the Individual

128 In closing this survey of the Ahaggar it is well to look briefly at the activities engaged in by the Targui from the day of his birth to that of his death. In following the natural course of a life, we may understand better than from more detailed studies of a particular phase the essence of the life of an individual within a tribe, insofar as it is possible to separate what is individual from what is tribal.

844 The young Targui makes his entry into the world in the tent, upon a rug of clean sand from the nearest wadi, sand which is, as we know, practically sterile, the heat destroying all microbes. Before giving birth, the young mother has followed the advice of her aunt or mother; she has walked up and down small hills ever since the first pains in order to "allow the infant to get well placed." As the pains increase, the young woman, now back in the tent, kneels on the sand, buttocks resting on the heels, and knees spread very wide apart; with raised arms she grasps two ropes which hang from the tent stakes. Two women hold her by the waist, encourage her,

844 /119 cont./ advise her. The waters are rapidly absorbed by the sand, which is replaced; then, naturally, without any help from the matrons, the infant emerges to lie on a bed of clean sand, his first cradle. During the delivery, it is good form for the woman to hide her suffering.

[184] /120/ In the noble tribes, with the Kel Rela in particular, the woman who begins to feel birth pains leaves the camp and goes into a sufficiently sheltered ravine, where the sand is very clean. She makes the delivery alone, taking the position noted above, then returns to the camp, holding her baby in her arms. She does not show the least trace of joy at the compliments of the other women. I spoke of this custom of the nobles to a vassal woman, who said to me: "It is true that the nobles do this, but it just swagger." The word she used might better be translated "affectation."

The baby, after being washed, is wrapped in a cotton cloth, preferably an old chèche /a long scarf/, and then laid on a rug near its mother.

846 853 For three days the baby will be given goat's milk with a small spoon, and only at the end of this time will the young mother nurse it. If the mother does not have enough milk, the infant is brought up on goat's milk, unless a woman of the camp can nurse the baby.

846 The new mother rests for seven days and receives no man, except for her near relatives, but nearly all the women get up from bed from the second day on. In the noble tribes most under the influence of Islam, the women observe a retreat of 40 days.

846 751 The newly delivered woman affords a particularly defenseless prey for the Kel es Souf. In order to protect herself and her infant against the attempts of the genii, she burns taharadjellé in the tent and goes outside the asaber /that is, outside the mats which line the tent and encircle the space before the tent/ only when armed with a knife, which, it seems, is very effective against evis spells. On the subject of superstition, it

846 /120 cont./ is said that a woman will never again bear children
751 if, during a delivery, she turns the foetal pouch inside out. Another cause of sterility is being hit by the tail of a uran.

845 Deliveries generally take place very well, but there are accidents, the percentage of which is not known; either the infant dies or puerperal fever is contracted. The Tuareg are completely powerless against such accidents resulting from childbirth.

852 /121/ On the seventh day of his life, the infant receives
553 his name, the occasion for a celebration to which all the close relatives are invited. A great meal is served, followed by tendi and ilougan. It is an honor to be the godfather and to give the infant its name; this honor is paid for in gifts (a'louf). When several persons are candidates for the position of being the godfather, the winner is chosen by drawing straws.

854 As do all the mothers of the world, the Tuareg woman coddles her baby, covers it with caresses, is touched to hear it cry, and sings it to sleep: "O hare, bring slumber, my baby won't sleep." As soon as he can walk, the infant gets to know the camp; he wanders around the tents, plays with the black servants near the fire, learns to talk, and remains very attached to his mother, who, day after day, teaches him the customs. The daily observation of the customs makes the child very obedient and very respectful.

857 At about the age of five, the young imrad Targui beings
868 to follow his brothers or sisters as they tend the goats. The young nobles follow their Negro shepherd. The child thus learns to know his country, the paths, the plants, the animals, and their habits. An old servant will point to a track on the sand and say: "Here's your father's camel, and this track is that of the female camel that just gave birth."

During his comings and goings across the pastures, the desert life engraves itself on his memory. He notes the track of the gazelle on the sand and that of the cheetah in pursuit. "Look," says the old slave, "in spite of the slyness of the

857 868 /121 cont./ cheetah, which was working forward at a crawl, the gazelle sensed its presence and leaped away. Here is where the cheetah pounced, see how deep the prints are; he leaped five times but could not catch the gazelle, which was a large male." The young Targui raises his head and shows his joy in learning that the gazelle was saved, for after his lightninglike leaps the cheetah could not outrun the gazelle. "But you," says the slave, "when you have a rifle, you will approach the gazelle as the cheetah did, against the wind, and you will not miss him.

"These pretty patterns on the dune are the work of the khanfous. /122/ This morning he went back in his hole under that rock. Be careful in lifting the stone, for the khanfous often is the slave of the scorpion; it is even said that he is the scorpion's father. Be careful when you see that track there, it was made by the viper; let's follow it.... Here's where it ends in that cluster of chabrok. Get a rock," the old servant says, "I'm going to set the brush on fire." The chabrok crackles as it blazes, and soon the hiss of the reptile is heard as it leaves its hole, numbed. The child strikes; this is his first hunt.

In this way the desert reveals its secrets each day. That green line ending in a red point there on the rock is "matarter," the poisonous lizard. He nods his head up and down, as if he were saying a prayer to the sun. He must not be touched, for his bite is like lightning. The large dob, covered with scales, whose enormous tail is armed with spikes, will be a toy for the child who catches it, provided he is not bitten, for the dob never lets go, and the finger would have to be amputated. If by luck the young Targui has captured a female, he can eat her eggs, a treat for the children. "The stomach of the dob was full of water," he remarks to his slave. "That is because it's Friday, and the dob only drinks on Friday," says the latter. "Even if there is no water about, even if it doesn't rain, each Friday God sends the dob his ration. When

825

857 868 /122 cont./ you want to keep a dob to play with the next day, tie him with a cord, but never put him in a sack that has held dates or sugar, for he would die."

857 868 825 Living in constant contact with nature, the young Targui comes to know its secrets; each of his observations teaches him; he is curious about everything that lives and moves about him. His slave, who follows him, protects him, and loves him as a father, explains everything he sees with the words and images of a simple soul, embellishing the old themes of the country. "The black and white bird following us, flying from rock to bush, is 'moula-moula.' You must not kill him, because he brings good luck to those he escorts; besides, he is a messenger -- each time he comes close to you and cheeps, he wants /123/ to tell you a friend is coming, or warn you about losing something, or alert you against a viper crawling toward you. 'Moula-moula' knows all, and he tells it to men, but you must understand his language; there are many in the Ahaggar who understand his messages. You must learn to speak 'moula-moula.'

"The other day you were afraid when you heard the huff of that big lizard you wanted to catch to play with as with a dob; it was a uran. It has a thin tail, but it is more dangerous than the big tail of the dob. When a uran lashes a man, the mark stays in his flesh forever, and it is not good for a Targui to capture a uran, for it is said that a uran was the uncle of the first mother of the Tuareg. That is why it gets mad when one of its own people makes fun of it. On the other hand, it is afraid of the Negroes and runs from us, because it knows that we eat it. Don't try to catch a uran; I once knew a Targui who wanted to go against the custom. It was a summer day in the middle of the Tanezrouft; he caught a uran, put a cord around its neck, and tied it to his camel. He got down and let go the bridle of his mount -- for what reason, I do not know -- and at that moment the uran lashed the camel with its tail, making it trot off at great speed. Still whipping, the

857 /123 cont./ uran made the camel run until it fell completely
868 exhausted and refused to budge. The man almost died of
825 thirst while following the tracks of his animal. When he found
it the first thing he did, even before drinking, was to let the
uran go."

855 Upon re-entering the tent at night, tired from running
about during the day, his imagination full of his discoveries,
the child settles down in front of the fire, whose flames execute
a marvelous dance for him. His eyes close as Venus,
"she who sold her father to have beauty," sinks on the horizon.
[264] This does not please the mother; the child must eat, and one
eats late in the tent, for the slaves must milk the camels and
goats before making supper. She awakens her son, draws him
to her, covering him with a dokkali to protect him from the
cool of the night, and then begins to tell tales of the past.

/124/ These stories, which make up Tuareg folklore,
539 tend to disappear. Many young people do not know them;
one must ask the old Tuareg men, those who miss the days of
the raids, or, preferably, the women, who in all ages have
been the keepers of tradition.

Some of these stories are fables peopled by the animals of the Ahaggar or the Sudan; sometimes they express a moral, but that is rare. Others are amazing tales in which monsters and genii harass men; often a hero succeeds in vanquishing them. These stories are very long; they contain instruction in the customs, and I think they bear a message from distant ancestors. This message, sometimes stylized, truncated, or embellished by the oral transmission, deserves to be studied; in order to do this, as many as possible of these tales should be collected before they are forgotten.

Here is the story of the jackal and the dob, as it was told to me by one of my pupils, a Targui of noble stock.

/124 cont./ The jackal and the *dob* were hunting together when chance led them to fall upon a goat, who soon departed this life. The *dob* made the fire while the jackal carved up the animal. The liver and the heart, grilling on the goals, gave off an enticing odor, which made the jackal regret his promise to the *dob* to share the hunt. Being shrewd and crafty, he sought a way to do his companion out of his share of the spoils. "Would you," he said to the *dob*, "take this liver and heart to my old mother, who lives in the next ravine? The poor thing can't hunt any more. While you are gone, I'll be dividing the meat." So the *dob* went off, trotting across the sand and rocks, carrying as best he could the gifts of the attentive son.

As soon as his partner was out of sight, the jackal jumped over the ravine, scaled the hill, and waited for the *dob* at the appointed place. Pretending to be feeble, he received with many thanks the gifts brought by the lizard. The latter took the path back with his rocking gait. Upon arriving back at the site of /125/ the kill, he saw the jackal stretched out near a clump of *afazzou*, full and sleepy, but there was no sign of the meat he expected to see.

"Where is my share?" he asked.

The jackal hardly bothered to look at him; a harsh laugh made the poor *dob* understand that he had been tricked.

Angry at having been so rudely cheated and vexed by the manner of the jackal, the lizard tied the bones of the goat to the tail of the sleeper. When he had finished his work, he said:

"Wake up! a man is coming toward us."

"No matter," answered the jackal without even opening his eyes.

"Careful, my friend, two dogs are with him."

Without asking any further questions, the jackal jumped up and ran off as fast as he could go. At each bound the bones hit the ground, making him believe the dogs were about to grab him. He ran and ran and ran, and, during his frantic

539 /125 cont./ flight, the bones dropped off one by one. Only one was left when, exhausted, he turned around to face his enemy. He understood then how the dob had taken his revenge. Furious, he retraced his steps, determined to make the dob pay for his impudence.

But the dob had forseen the anger of the jackal and had hidden in a hole in a boulder, barely showing the end of his nose.

"How in the world did you make that hole to hide in? I would like to have such a safe place myself," said the jackal sweetly.

"Very easy," the dob assured him. "Go get plenty of dry wood, stack it against the boulder, and make a great fire. When the flames are high, butt your head very hard against the rock, and it will open up. We dobs always do it that way."

Driven by his anger, the jackal carefully followed the instructions of the dob. Knocked out by the butt he gave, he fell in the fire and was roasted.

Stories of this sort are numerous, always amusing and full of lessons, as much by the observation /126/ of the animals' characters as by the morals to be drawn.

Here is a story in which the jackal is tricked by the hedgehog. The latter enjoys a most flattering reputation for cleverness.

A hedgehog and a jackal one day found themselves before a dead camel, which offered an excellent feast for the pair. "Go look for some fire," the jackal said to the hedgehog, hoping to play one of his tricks on him while he was gone. The hedgehog, rightly suspicious, replied: "Your legs are longer than mine, and you have an established reputation as a runner; you can find fire a lot faster than I can; you go, and I'll stay and guard our prize."

539 /126 cont./ The jackal left at his little trot, which enables him to cover the longest distances without tiring. The hedgehog, having watched the departure of his partner, went back to the camel and cut it into small pieces, which he buried near a tahla /tree/. When he had hidden all of the animal, covered the holes with sand, and rubbed out the traces of his comings and goings, he stuck the camel's tail in a hole, leaving only a few tufts of hair visible. At that point he saw the jackal returning with a firebrand; he then seized the end of the tail and pretended to be trying to pull it from the ground.

"What are you doing in that ridiculous position?" the jackal asked. "Tell me what has happened to the camel, which I don't see any more."

All out of breath, the hedgehog replied: "The animal wasn't dead; it heard that we wanted to cook it, and scarcely had you gone when it dug a hole in the ground to hide itself. I'm not strong, and I couldn't keep it from digging in and burying itself, but I've got it by the tail and it can't get very far."

"Let me take your place; I won't have any trouble in pulling it out."

"Don't get excited," said the hedgehog. "We've got plenty of time."

Alas! The jackal did not listen to this counsel of moderation; /127/ he pulled violently and fell over backward, the camel's tail hanging sadly from his muzzle.

"Your haste has ruined us," the hedgehog said. "The camel has disappeared underground. At least we still have the tail, which we'll have to content ourselves with."

"You'll get nothing, stupid hedgehog," barked the jackal angrily.

He grabbed the tail and ran off with it to appease his hunger.

Let us now listen to a story, "einoukhast," as the Tuareg say, which is very well known and is often told:

/127 cont./

539 The Lion, the Hyena, and the Jackal

Game being rare, the lion invited the hyena and the jackal to hunt with him on a certain summer day.

The association proved to be fruitful; in a short while the ground was strewn with antelopes and gazelles. A lavish meal awaited the hunters. The lion, fair by nature, asked the hyena to divide the shares. The latter, with his powerful jaws, soon cut up the game into pieces, and made three obviously equal piles. "Very good," said the lion when the work was finished, "but what is the meaning of these piles?"

"This one," said the hyena, "is for you, that one for me, and the other one for the jackal."

Two powerful blows with his paws, knocking over the hyena, constituted the first reaction of the lion, who then explained: "That is no way to divide the shares; people are right to say that you are dense."

The lion calmed himself and said to the jackal: "See if you can settle this question."

The jackal restored the piles of meat, which had been scattered by the lion, and said: "This first pile is for you, the second pile is for your meal tonight, and the third pile is for your lunch tomorrow."

The lion was extremely pleased. "Who taught you to divide shares like that?"

"It was the cuff you gave to the hyena," said the jackal.

/128/ The oral tradition often passes on lifelike stories, stripped of all marvels but which are profitable lessons, such as the two anecdotes which follow:

539 /*128 cont.*/

The Negress and the Three "*Tahenchit*" (1)

1. The Tuareg *tahenchit* designates the cynhyena -- *Tycaon pictus.* This is a ferocious animal which hunts in packs and will attack men and sometimes lions.

One day a Negress left her village to gather wood. She had finished gathering her fagots when she saw three ferocious and hungry *tahenchit* running in her direction. Dropping her wood and calling on God, the Negress scrambled up the nearest tree. Scratched by the thorns of this saving *tamat*, she regarded the three wild beasts which, with foaming muzzles, besieged the tree. The day passed, and night fell. The beasts seemed to be asleep, and the Negress was very sleepy herself, but each time she dozed off she nearly fell. What had to happen, happened; she went to sleep, then fell. In falling, she screamed, and then screamed louder still upon landing on the ground in the middle of the *tahenchit*.

"Take your shares," she cried, hiding her head in her arms.

But the *tahenchit*, frightened by her cries and the noise of the fall, fled toward the desert. The Negress did the same toward the village.

825 The *tahenchit* is feared by the Tuareg who go to the Sudan; the animal does not inhabit the Ahaggar at present. The Augiéras-Draper mission of 1927-1928 found one on the border of the Tanezrouft near Timissao. The ferocity of these animals is hard to believe. The Tuareg tell of one of

825 /128 cont./ their men who was surprised by a pack of cynhyenas and who took refuge in a tree, where he feared a long siege. Knowing the voracity of the *tahenchit*, he cut his finger and let the blood fall on one of the beasts. In a very short time, the pack fell on the one /129/ that received the drops of blood and tried to tear him to pieces. The attacked beast fled, pursued by all the pack. The Targui got out of this difficult situation thanks to his knowledge of the habits of the desert beasts.

539 Here is another story, which proves that it is well to be armed in all circumstances.

The Two Brothers and the Lion

It is said that there were once two brothers, still living in their parents' tent, who were united by a rare affection for each other. Nearly old enough to marry, they often went to pay court to the girls of neighboring camps. They showed themselves to be true Tuareg from the *tendi* to the *ahal* /gatherings where young people of both sexes meet/.

One evening one of them went out alone, dressed in his best finery and armed with his spear. As the camp he was to visit was quite nearby, he left on foot.

After having walked for a good hour, he realized that the camp he was looking for had moved. At the camp site, a lion wandered about in search of food.

Upon seeing the man, the beast became frightened, then roared and leaped. The Targui, quick on the defense, hurled his spear and pierced the lion's front and back left paws. Despite being hobbled by the spear, the lion struck the man with his good paw, killed him, and tore him to shreds.

The next morning the other Targui began to worry when he saw that his brother had not returned. He carefully armed himself, taking his spear, his shield, and his *takouba* /sword/, and set out to follow the tracks.

539 /*129 cont.*/ Upon arriving at the scene of the drama, he soon was able to reconstruct the event and to see its fatal outcome. As he was a brave man, he could not return to camp without avenging his brother.

He tested his *takouba* to make sure it left the scabbard easily, held his shield close to him, and steadied his spear. When he was ready, he cried "*Arr arr rrrinek*" several times with all his might. (This cry, it seems, has the power to render the lion particularly furious.)

The lion soon appeared, his mane bristling, his eyes /*130*/ terrible. The man gave his cry again. The furious beast charged. At the first bound, the spear which still hobbled him broke. The Targui threw his spear but missed the bounding animal. Parrying the animal's terrible cuff with his shield, the Targui drew his sword and with one blow cut off the lion's head.

He returned to the tent with his trophy and with his brother's broken spear.

Even for going to the *ahal*, one must, in the desert, be very well armed!

[172] In the vicinity of nearly all water points in the Ahaggar, one may see engravings on the rocks. The Tuareg are very familiar with these reminders of another age; by tradition they attribute these works to two mythical characters whose names we cited in a previous chapter: Amamellen and Elias. Here is a legend concerning these two heros.

Long, long ago, long before the Tuareg came to the Ahaggar, other peoples lived on these lands. No one now is able to say who these people were. All that is known is that some among them were rich, for the land was fertile and the rains abundant. The chiefs were honored, as their tombs

539 /130 cont./ attest, and their power over the spirits was great, for they knew the language of the *Kel es Souf*. But all that is past, and it is not well to bring to light forgotten secrets.

At that time there lived a man called Amamellen, a noble in estate; he was rich, and he had numerous slaves to care for his flocks scattered throughout the Ahaggar. It is not known how he acquired his art, but he was extremely skilled in tracing on boulders the silhouettes of all the animals he saw around him in the desert. He also knew how to draw men. Most of the time he engraved on beautiful smooth stones, and sometimes he colored his drawings in various ways.

Amamellen had a nephew, the son of his sister, an intelligent boy, /131/ clever and courageous, who often accompanied him on his travels. By being with his uncle, Elias very soon learned to engrave and to paint.

Amamellen was satisfied and happy with the progress of his nephew.

As he grew up, Elias perfected his gifts and became even more skilled than his uncle. All the people spoke of him and praised his *savoir-faire* and his mastery in painting and engraving. It was also said that Elias possessed extraordinary strength. The following story was told of him. While he was practicing engraving on the rocks of the *djebel* /mountain/ Teferkit near the Tefedest, he saw that the kids left to wander by the slaves came to suckle their mother. Having called in vain for the goatherds to separate the animals, he became angry. With a blow of his saber he cut off the summit of the *djebel* Teferkit and put it down in the middle of the Adenak wadi. Having separated the goats from the kids, putting the former on one side of the summit, the latter on the other, he was able to continue his work undisturbed.

To this superhuman force, he joined such qualities of mind and heart as are seldom seen even in our time.

To hear his nephew constantly praised everywhere he went made Amamellen jealous, and this jealousy was multiplied each time he saw Elias' works.

/131 cont./ In those days people did not know how to control their feelings, and the time came when Amamellen wished for the death of Elias, being moved by envy and, doubtlessly, also by evil genii.

He could not openly kill his nephew, even by surprise, without being hated throughout the country, so he found a way to get rid of Elias without being suspected of the deed. Amamellen picked a slave, a strong but not very intelligent boy, who obeyed his master without trying to understand the reason for his orders. "You will go, " he was told, "and lead my camel herd into that wadi we passed by some time ago, near that black mountain where I killed the antelope whose horns you saved. "

/132/ "But that wadi is very far to the south, outside of the usual trails of our tribes. "

"I know, but those are my orders. I also know that the wide plains are covered with excellent pastures. "

"Very well, master, it shall be as you wish. "

"You will not go alone; Elias will accompany you. "

Lowering his voice, Amamellen told the Negro the rest of his project. He finished his instructions in a whisper, while the slave, astonished, his eyes wide, remained fixed to the spot. A rough blow brought him back to reality.

"Go, " said his master, "and get everything ready by sunrise. I shall tell Elias. "

The next morning a hundred camels left for the south. Elias and the slave rode in front, armed with *takouba* and spear. Two *guerbas* /waterskins/ hung from the flanks of their mounts.

When the caravan had left the last mountains of the Ahaggar and the habitual trails, the question of water began to be important. The Negro, well instructed by Amamellen, was confident of finding the well or the *abankor* /water hole/ before the *guerbas* were empty.

/132 cont./ Elias regretfully saw the mountains recede; he trusted the slave, who knew the way, and on his mehari he seemed to doze, as if crushed by the tedium of those immense, horizonless wastes.

One evening an isolated mountain in the reg appeared in the distance. "There is where we are going," said the slave. The next day toward noon Elias could see an immense pasture, such as his uncle had described. In the wadi's bed, immeasurably wide, a veritable sea of green stretched as far as the eye could see toward the south. Thousands of birds flew over as the camels passed.

"Let us stop here," said the Negro. "Here is where your uncle wants his animals to graze."

They established their camp at the foot of the mountain with the black rocks, which dominated the desert horizon and of which Amamellen had spoken.

/133/ It was still very early, and yet the heat became unbearable, like nothing known in the Ahaggar. Elias was thirsty, and he said to the slave: "Go look for water, for the *guerbas* are empty."

"Alas," said the Negro, "there is no water in this accursed country; we left the last well behind us seven days ago."

"Why didn't you fill all of the *guerbas* we have in reserve during our last stop at the well?"

"I didn't think of it, and you didn't tell me to."

"Go back, then, to that well and bring back water."

"How can I?" whimpered the slave. "Our animals are tired, and I could not get to the well, much less return. The beasts must eat for several days before being able to undertake this trip."

Elias realized that what the slave said was true, but he began to think that he was the victim of a trick. Instead of getting angry, he reflected and watched.

Two days passed from the time they had arrived at the pasture, two long days during which the sun of the great regs

539 /133 cont./ seemed to them to make the sand and the stones boil. The animals constantly grazed on the wet leaves which nourished them and at the same time made it possible for them to go several months without drinking. Elias was suffering from thirst, and he was astonished to see the slave carry on as usual, going from the camp to the pasture, returning under the torrid sun, in short, accomplishing all of his daily work, while he himself felt incapable of taking a few steps without falling.

Night fell; the Negro slept. Elias, who had stayed awake, took the slave's naïls /sandals/ and spread a thin layer of butter on the soles. Having returned the naïls to their place, he stretched out and pretended to sleep while continuing to watch the slave.

Well before daybreak the Negro put on his sandals, examined the sleeper a moment, then, reassured, left the camp silently. Then, jumping from rock to rock, he climbed the mountain and disappeared.

/134/ At the appearance of the first rays of the sun, Elias in his turn left for the mountain, following the prints left on the rocks by the greased naïls. There was no trace whatever of footprints on the sand, which is why Elias had not been able to follow the trail of the Negro during the first two days. This time it was different; the slave had stepped only on stones, so the trail was long and winding. Elias rested often, for he was weak with thirst, but he started off again as soon as he could, fearing to lose the small tracks which shone in the sun. After an hour of hard walking, he arrived at a hole between two boulders at the bottom of which glistened a mirror of water.

After slaking his thirst, Elias felt his strength returning rapidly and returned to the camp by the same path. He said nothing of his discovery to the Negro. Days passed. The slave was not even surprised that Elias could live without drinking. He followed his master's orders without trying to understand; he was sure he had not been followed in going to drink, and that was enough for him.

539 /134 cont./ Back in the Ahaggar, Amamellen was becoming impatient; a month had already gone by, and his slave had not yet returned. Perhaps his project had succeeded better than he had hoped; perhaps Elias was dead, and with him the compromising witness. That was what Amamellen thought, but he had to be sure. He outfitted himself and started off.

His surprise and anger were great when, upon arriving at the pasture, he saw Elias stretched out on his rug while waiting for the Negro to return from counting the herd. However, despite his disappointment, he contained himself.

"How did you find something to drink?" he asked his nephew.

"I haven't had anything to drink," replied Elias. "The Negro can swear to it."

The Negro, taken aside, did in fact confirm Elias' words.

"No matter," resumed Amamellen, "the main thing is that the herd is in good shape, and I congratulate you on that. For the time being, I intend to stay here awhile with the slave. You, Elias, will take your camel and leave for the well that is seven days from here going toward the Ahaggar. At this well, I left 100 female camels, 100 horses, and 100 asses; you will see that they drink, and you will /135/ fill the 100 guerbas that I hid near the well, after having repaired them, for many of them are ripped. Then you will return to the Ahaggar where I will rejoin you."

Elias took leave of his uncle, then left during the night. He preferred this nocturnal departure, as it allowed him to fill his guerba at the aguelman /same as guelta/ without being seen. He did not know his uncle's schemes, and he was happy to leave this place where he had almost died of thirst.

Remaining behind with his slave, Amamellen gloated over Elias' departure, for this time his nephew was sure to die despite all his cleverness. In point of fact, bandits were heading for the well in order to steal the herds, and these

/135 cont./ cruel raiders never left anyone alive to tell the tale of their dark deeds. Elias, who had to stay in the vicinity a long time to carry out the chores given him by his uncle, unquestionably would fall under the blows of the bandits and would perish as surely as if Amamellen himself had plunged a knife into his heart.

Elias urged his camel on, for the previous night he had seen a number of fires to the east. He knew he was not safe in these regions so far from the mountains of the Ahaggar. Such a large number of fires was suspicious. There was little doubt that it was a raiding party on the way to the Ahaggar, and it must inevitably pass near the well he was making for.

He took only three days to reach the well, having trotted every night. Without wasting any time, he assembled Amamellen's herd, drew water night and day to water them, repaired the torn *guerbas*, and then filled them all.

As he was getting ready to leave, an armed and menacing troop appeared and began to surround the herd with the evident intention of stealing it. Elias jumped from his camel and leaped astride the most spirited stud camel of the herd. Armed with his saber and protected by his shield, he flew at the biggest group. Striking to left and right as would some demon, he spread such terror among his assailants that they fled, swearing that they had run up against a *Kel es Souf*.

/136/ Without waiting any longer, Elias drove the herd before him and set out in the direction of the Ahaggar, whose steel-blue summits he perceived on the horizon.

Three days passed after he left the well, the country became wilder, the dull waste of the regs gave way to the first foothills of the Ahaggar, and the wadis wound through deep gorges. This sight overjoyed Elias, for it announced his homeland. He was attacked at a turn in a wadi by a large group of bandits. He drove his herd, the horses in the lead, into the boxed-in wadi. Shouting and bellowing, he stampeded his beasts, prodding the laggards with his spear.

539 /136 cont./ The animals galloped ahead in a compact mass, giving the impression of a torrential flood surging down a narrow gorge. Elias, still mounted on his horse, had no trouble in routing the assailants, who were trapped against the sheer walls of the gorge by the wave of frightened animals.

However, the bandits did not want to let such a good prize get away: so many animals, and guarded by a single man, be he a devil, had to be raided, and this devil had to be punished for his boldness. They had to act before Elias could reach the high mountains of the Ahaggar, until then an inviolate lair. They waited until the herd had entered the vast Tamanrasset basin. There the wadi spreads out, goes along the Adrar Haggarène with its vertiginous peaks, and runs against the Adriane, whose vertical walls prevent all passage.

Asses, horses, camels, all advanced in close ranks in the bed of the wadi, which was bordered by verdure, when Elias saw that the raiders had formed a large arc designed to drive him against the cliffs of the Adriane. Contrary to their usual practice, the bandits advanced in silence, closing their ranks little by little. The silence was nerve wracking, and Elias felt himself lost despite his courage and his cleverness. He was going to fall before the enemy numbers, so near his native mountains, whose peaks he named to himself without thinking. There was no question of repeating his exploit at the well; the raiders would not let themselves be impressed a second time.

Elias had an inspiration. He vaulted to the slope of fallen rock at /137/ the foot of the mountain and climbed to the top of it to the beginning of the sheer wall of the cliff. He watched the movement of the bandits an instant, then unsheathed his saber and struck the cliff such a powerful blow that the mountain was nicked. The immense block thus cut away fell into a neighboring wadi. Climbing down the rocks in all haste, Elias forced his herd to climb the slope and pass through the passage he had carved out. All of the animals disappeared

539 /137 cont./ under the eyes of the bandits, who regarded with stupefaction the man who, having hewn a piece out of the mountain, defied them from the vantage point of the breach.

Thus ends this story of Elias. Others concerning this hero must exist, but they are buried in men's memories.

One may still admire Elias' exploit: the breach in the [823] Adriane is a landmark of Tamanrasset, and the boulder that was hewn from the mountain rests eight kilometers from there in the In-Zaouen wadi, where it has remained planted, a reminder of the hero's valor.

852 Thus, observing nature, listening to the old stories, the 304 young Targui grows up and forms his opinion. At the age of six or seven years, he undergoes circumcision: "agadam." The relatives gather for a big meal on this occasion.

857 From the women, the young boy learns to sew cloth and 868 leather. He makes toys from old rags; these are usually camels in stylized forms, sometimes having real artistic value. Toy in hand, he races with his comrades to see whose camel is the swiftest. Girls and boys alike make dolls dressed in the Tuareg style; they play camp, paying visits, drinking tea, and striking camp. The young boys carve greatly stylized camels on flat stones or on goat jawbones cut in two.

A favorite amusement consists in mounting an ass and making it gallop, which is not accomplished without numerous falls in the beginning. However, it is the camel which haunts the child; his father has /138/ already let him ride for a circle around the camp, but the little boy wants to be master of his own mount, to guide it across the fallen rocks of the nearby mountain, then to break into a fast trot on the plateau bordering the wadi but not beyond, for he would be seen from the camp and would risk a severe scolding for having taken a camel to amuse himself. Nevertheless, his parents know how it is, for they did the same thing themselves when they were young, but the "canoun" must be applied.

857 /138 cont./ When, by chance, the camp is near a guelta,
the child may frolic in the water, the favorite summer sport.

If two large camps are near each other, joint games very
857 soon are organized. Sometimes a kind of hockey is played
526 with a leather ball stuffed with goat's hair. The ball is hit
with a cudgel taken from a tahla; sometimes, to the delight
of the spectators, hand-to-hand fights break out, with the
first of the two antagonists to fall to the ground being declared
the loser. As the children get excited, veritable battles take
place between the two camps; it is war. Sticks and stones
enter the game; trickery and force are used. The battle stops
at night or when the first child is hurt, but custom requires that
nothing be said to the parents, above all nothing of the origin
of an injury; the child who did that would lose his honor, and
parents are so slow to understand!

857 The little girl prepares for her task as mistress of the house
at the side of her mother. She sews in collaboration with the
868 women, who never work individually. She is taught how to
cut fine leather thongs and how to plait them; while she works
she is taught the traditions of which she must be the fierce
guardian later on, as she often will have to recall them to the
men, who, always on the move, have a tendency, through
lack of use, to forget the true Tuareg "canouns."

During their play, the children learn tifinagh writing
868 from the older ones; they trace words in the sand, then phrases.
But it is in the evening before bed that their mother will give
more precise lessons in spelling the words they have acquired.
Thus, gradually, /139/ the child learns to read and write his
language; he will never have great facility in it, but that is
due to the difficulty of the method of writing.

868 Every Targui knows the mnemonic aid for remembering
the letters of the tifinagh alphabet; it is the following phrase:
211 "Fatimata oult Oghanis, tagueltenit mraou issen edssedis;
tedjehenet ouart thouadis," which may be translated: "Fatimata,
daughter of Oghanis, whose bride price (to be paid) is 16

868 /139 cont./ horses; no one may touch her ribs." As a matter
[211] of fact, many of the letters are not found in this phrase, but
it is a good enough reminder.

Among the imrads the young boy, from the age of ten, accompanies his father to the Sudan or to the Amadror saltworks. In this way, little by little, he acquires knowledge of the trail. The noble remains at camp longer; by listening to the discussions of his elders he becomes acquainted with the art of command.

884 Gradually, the young Targui begins to wear the veil, at
first using an old chèche /scarf/, which he tries to arrange in
the proper fashion. At the age of fifteen he will put on the
taguelmoust /blue veil/ for good during a celebration; he
will take part in an ilougan /tournament/ mounted on his
[431] own camel, the gift of his godfather, or on a borrowed animal.

On this occasion he receives gifts, a takouba /sword/, a
taguelmoust, or a takamist /a kind of gandurah worn on festive
occasions/. He is now a young man. The girl officially takes
[881] her alechou /shawl/ at the time of puberty; she also receives
gifts: the alechou, clothes. She is made much of. Now she
is considered to be a woman. Until now she did not speak
before the men, maintaining a shy attitude; now there is an
end to that, everyone obliges her to talk and to conduct herself
as a lady of the house.

Boys and girls who have assumed the taguelmoust and the alechou may thenceforth attend meetings of the adults, but they do not speak except when asked a question.

The occupations of the young people are practically the same as those of the adults. The girls help with cleaning the tent, mend clothes, and make leather bags; among the imrads, they milk the cows.

/140/ The young man begins to travel alone and tends the camels. If he still amuses himself by fighting with his friends, he no longer fences with the takouba, a practice in former times.

861 /140 cont./ The child has never been able to have his way in his parents' camp; he has always had to bow to the canouns; if, by chance, he was disobedient, his parents did not hesitate to use corporal punishment -- a few slaps, nothing more; for a more serious fault or for the repetition of an offense, he would find himself tied up like a young goat and condemned to stay in the tent. However, punishments are the exception; a word, a look, suffices. It is not at all good, the Tuareg say, to beat children too much. This training gives the young Targui a proud character, an acute sense of 181 his dignity, and a sometimes disquieting reserve. Absolute obedience to custom makes it necessary to lead a moral life which is perhaps more rigid than a religion could make it. To know a Targui and to predict his behavior is very difficult for a Frenchman, who must sort out what is individual from what comes from the constraint exercised by Tuareg society and then must take into account the coloring that Islam gives to the whole.

836 Soon the time comes when the young Targui may go to the tendi and ahals. It is necessary to say here a few words on sexual problems.

Certain stories have greatly exaggerated the freedom of morals among the Tuareg. The training of the boys, which keeps them very often out of the company of adults, and that of the girls, which ties them to their mother and obliges them to be modest, does not predispose to license.

836 864 There is no sexual education properly speaking; for a very long time the young girl is ignorant of everything concerning conception. Casually, thanks to an older girl companion, she learns the essentials of intimate relations between men and women. The young man is initiated much sooner, for he may easily leave the camp; enlightened by his comrades, he wastes no time in starting an affair with a Negress of the neighborhood. The sexual customs are transmitted in conversations /141/ among the young Tuareg and are observed

836 864 /141 cont./ as are the other customs; there is one very interesting one, the respect for the Tuareg girl. Contrary to a commonly held opinion, the young girl about to be married is always a virgin (physically) among the nobles and nearly always one among the imrads.

839 In their first youth, the Tuareg behave as do all the children of the world; they practice solitary masturbation, girls and boys using procedures characteristic of the country. 786 The first amorous relations between Tuareg girls and boys take place after celebrations. It is well to describe these celebrations, for accounts of the famous "courts of love" have been much exaggerated.

We have seen that the Tuareg organize a tendi on the 534 occasion of a family ceremony. The tendi takes its name from the instrument used, the large wooden mortar over which is stretched a skin which has been dampened previously. The women gather around the tendi, and one or two beat out traditional rhythms on the skin, which resonates dully. One of the women chants an endless series of couplets while her companions mark the measure by clapping hands and take up the refrain in chorus. The songs evoke past combats as well as recent events; they vaunt the merits of a camel or those of a person; some are improvised. Widows, divorced women, and young girls take part in the tendi, but married women, with the permission of their husbands, also go. A woman leaves the tendi if one of her parents approaches it.

The songs continue, accompanied by the tom-tom; the men then come to sit behind the singers, listen, and also sing. Each hugs his female companion next to him, but hardly passes the limits of a public flirtation. The tendi continues late into the night while the old people sleep in the tents.

526 In the daytime the tendi is the indispensable accompaniment of the ilougan, which may be defined as "a tournament on camel back."

526 /141 cont./ The young Tuareg dress very carefully, /142/ each showing great fastidiousness. The camel is decked out as richly as possible. Half of the riders line up about 50 meters from the tendi, and the other half at an equal distance on the other side of the tendi. The Tuareg ride from one line to the other in pairs; each Targui watches his bearing, holding himself straight but supple, makes his mount hold its head as high as possible and keeps it abreast of its neighbor, making it trot with the gait called senat-senat or kibarat.

Quitting this back-and-forth movement, a group of riders circles the tendi as close as possible to the women; one of the Tuareg seizes one of the singers' alechou and rides off furiously, whipping his mount. His friends chase him, trying to take the veil from him. The one who succeeds in recapturing it takes it back, as victor, to its owner. He is saluted with tarallélit (the you-you of the Moors). The ilougan lasts until nightfall.

[177] It must be noted that the tendi did not originate in the Ahaggar; it was imported from the Adrar des Iforas and from Tamesna.

584 A gathering native to the Ahaggar is the assihar. A great number of men and women gather around a famous woman imzad player. They listen to the violin, which begins the first measures of a familiar song, then a man or a woman begins to sing. Between songs conversations are held, and flirtations begin in the darkness, but within the strictest bounds of propriety.

When the assihar ends late at night, young men and women go off in small groups; this is the ahal. A woman escorted by two or three young men goes to sit by a bend in a wadi. Her companions speak to her aloud when the conversation is for all ears or very softly in the ear when there are confidences to make. One of them takes the young woman's hand and holds it in his; an old Targui said: "I once held the hand of the woman I desired for three straight nights, and for three days I did not eat."

584 /143/ There is a language of the hands which supplements the conversation of the ahal; here are several examples. Having taken the woman's hand with fingers interlocked, to place one's thumb against the end of her thumb means: "I desire you very much." To trace a circle in the palm of the hand, pressing the index finger in the center of the circle, is to ask for an intimate union. The woman thus solicited takes the hand of her suitor and traces a line with the back of her index finger going from the wrist toward the fingers, which means: "I refuse." But if having done this, she traces another one in the other direction, it means: "Leave with your friends and come back alone."

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833 Once alone with his girl friend, the young Targui will continue to pay his court, sometimes platonic, often less so. Putting their faces together, nostril against nostril, they breathe together. This type of kiss is known for the mouth too but is little practiced. Manual caresses follow the kisses. The men often stop at this stage with virgins, for they know how to "recognize a virgin by her walk, her bearing, the firmness of her breasts, and the reflex of her Achilles tendon!" The Tuareg know other caresses which satisfy the senses but respect physical virginity.

838 It must be noted that homosexuality, male or female, is unknown among the Tuareg.

839 It is said that bestiality, although very rare, does exist; but supposedly it is practiced as a remedy for venereal diseases.

These sexual customs make it possible to understand the stability of the Tuareg, who, although Moslems, do not suffer from suppressed desires. Rape does not exist, and when a woman refuses a man, he never insists, nor will he show himself jealous of a more successful comrade. Let us add that they are absolutely discreet about their relations with women. It is in these manifestations of the intimate life that one sees the prestige enjoyed by the Tuareg woman.

584 /*143 cont.*/ The day comes, rather late, toward the age of 25 generally, when the Targui thinks of getting married. He gets a member of his family to make the proposal. The messenger says to the /*144*/ father of the girl: "I would like a tent and an *asaber*." The father understands that his daughter is being asked in marriage by means of this metaphor. "*Tidjera-ouet,*" he replies, to give his consent. Then begins the discussion of the bride price the suitor must give to the fiancée and of the amount of the gifts to the family. There is a scale of bride prices to be paid to the women, which vary according to the tribes they belong to.

To take a Kel Rela girl, seven female camels must be given to the young bride; a Dag Rali must receive three female camels; the other *imrad* get only one. The husband must furnish the tent. On the day of the marriage, a *taleb* /scribe/ or, in the absence of a *taleb*, the chief of the tribe records the husband's gifts, which are not necessarily made but which he recognizes as being owed.

585 Everything being in order, the marriage and the date of the ceremony are announced. An enormous meal, for which a camel and numerous goats have been slaughtered, is served to the guests. *Tendi* and *ilougan* continue without interruption.

At the spot where the young couple's tent will be put up, a large pile of sand is prepared. A woman of the bride's family sits on it, holding a club in her hands, then, lowering her head, rests her forehead on her joined hands. Two men take the half-rolled tent and throw it over the seated woman three times.

During the whole day, the bride-to-be stays in her parents' tent; the bridegroom talks to the old men of the camp and does not participate in the public merrymaking.

The tent of the future couple having been erected, the young man will spend a night in it alone, seated on the pile of sand, without sleeping; this tradition is particularly respected among the Kel Rela. The second night the girl will become

585 /144 cont./ his wife. Formerly there was a custom now lost: the pile of sand was kept in the tent for three nights, and the two spouses slept separated by the pile, custom saying: "The first night, this woman is your sister; the second, she is your mother; the third, she is your mother-in-law; the fourth, she becomes your wife." And the pile of sand was removed.

/145/ Before entering the nuptial tent, the husband must walk around it three times, and the young woman must do the same. She is led to her husband's tent by a group of women from her family. Along the path leading to the tent, the Tuareg women sing traditional refrains:

"Thanks to God, my daughter leaves me this night."
The mother-in-law greets her son-in-law, saying to him: "Offer beautiful things to my daughter so that the shadow that will protect her will be cast by silk. Of the ten camels of her bride price, one has a white head; have her mount the gentlest one, and all her family will gaze on her."

Upon approaching the young couple's tent, the train of women comes to the gathering of men who are talking to the husband. The women then sing: "Thanks to God, and thanks to him before he was even named." The girl's mother greets her son-in-law. "Men, let us pass, stand aside, or else we shall push you and you will fall down, for we possess the greatest force that can be imagined."

The men having withdrawn a little, the young woman gets ready to pass over the threshold of her tent; one of her relatives appears suddenly, takouba /sword/ in hand, and announces: "You will not go in that tent." The young woman must then give her naïls /sandals/ to the interrupter in order to finally acquire the right to be a wife.

Up until about midnight numerous friends stay to talk to the young married couple.

591 The new husband must remain in his wife's camp a rather long time before he is able to move his tent at will or to take his wife to his parents' camp.

585 /145 cont./ Some tribes, in particular the Issakamaren, having adopted many Arab customs, observe the following custom on the day after the marriage: the husband who has not found his wife to be a virgin during the meal breaks the bone of a leg of meat, eats the marrow, blows through the inside, then sticks the two broken pieces in the couscous. In this way everyone knows the affront he has suffered. Later in life, when his wife becomes disagreeable, he will put his fist before his mouth and blow between the fingers, imitating his gesture of the first day. The woman, ashamed, will stop her recriminations. Following another custom less and less /146/ in use, the woman who has found her husband lacking in virility during the wedding night will crown him with her alechou /shawl/, thus showing to the world the impotence of her husband by considering him to be like a woman.

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562 The woman holds a privileged position in Tuareg society. It is customary to say that the reason for this must lie in the matriarchal organization of the tribes.

Among the Tuareg today matriarchy survives only in a very attenuated form due to the presence of Islam. It must be noted that the woman is absolute mistress in the tent; she gives the orders to the children and the Negroes, and she organizes the daily life; but outside the tent the man commands; he decides on the camp moves, the departures of the caravans, the commercial transactions. The woman's opinion is always [611] taken into consideration; she is guardian of the traditions, and, if she does not possess what we may call civil rights, it is she who transmits them: a Targui will be a noble if his mother is a noble. The right of eligibility to the amenokalat /chiefship of the confederation of tribes/ is given by the women who are directly descended in the maternal line from the ancestor Kella. This transmission of rights by the women constitutes the originality of Tuareg society.

837 Powerful in her home, lived by her husband, respected, the young wife has every chance to be happy. It is rare that

837 /146 cont./ the husband deceives his wife, and if this happens it is far from her when, departed for the Sudan, he remains absent a long time. The Tuareg woman is faithful; those who take a lover are rare. If a husband knew his wife to be unfaithful, simply by hearsay, he could repudiate her, but in the case of flagrante delicto he could kill the guilty pair, or he [684] could bring the case to the attention of the amenokal, who would impose a fine. The deceived wife may leave her husband; in this case she returns to her family, taking her [586] belongings with her. Divorces are rather rare and very ill thought of.

761 Death is not regarded with terror, a whole framework of beliefs strongly colored with Islamism promise the Targui 775 future recompense in the other world. It /147/ seems that charity will be particularly rewarded and selfishness severely punished; the punishments described would be similar to the offense. Extensive investigations would be necessary to sift out all the beliefs concerning death; to distinguish between what is Moslem and what is properly Tuareg would prove to be very difficult.

764 When a death occurs in the tent, each member of the family maintains an attitude of what appears to be very great dignity to our Western eyes. Certainly, it happens that some people cry over the deceased, which is human, but custom would have the tears held back; a man, particularly, would know how to control himself sufficiently not to show his grief.

The body does not remain in the tent long; the women wash it if it is that of a woman; the men wash it in the other case. It is perfumed; its members are laid out in an attitude of rest; then it is wrapped in a shroud (tifit), which is sewed up. During these operations, the tomb has been dug following the Moslem custom. Only men escort the corpse to the grave. After having buried it in the tomb and covered it with earth, they put up stones to mark the place, and each man returns to his tent. There is neither song nor prayer.

764 /147 cont./ A meal is served to those present at the expense of the deceased according to the instructions he has given before his death. If his wishes were not carried out, the livestock earmarked for the occasion would perish.

763 It is said that he who dies in a position of rest, his arms relaxed, his face serene, was a good man and has every chance of being rewarded. On the other hand, he who expires all curled up and with his fists clenched against his face was a bad man; even if he hid his faults during his lifetime, he is doomed to future woes.

428 The rules of inheritance are poorly known by the Tuareg; only the old know the customs, for to a greater and greater degree the tolbas introduce Moslem law.

When a man dies, one eighth of his property goes to his wife, the rest to his children. If there are no children, a /148/ third is for his wife, with the rest going to his family, part to his parents, part to his brothers and sisters. When the wife dies first, all of her property goes to her children if she has any; if she has none, half goes to her family and the other half to her husband. The property of a deceased person without heirs, a rare condition, are administered by the tribe's amrar for the benefit of the collectivity.

By an oral will made before two witnesses, a man may leave no more than a third of his fortune to an heir not designated by custom.

000 This description of a Targui's life from infancy to death provides merely a glimpse of the customs of a part of the population of the Ahaggar, the part that commands, the part that seems most attractive to the traveler, to the tourist; but one must think of the humble ones, of the harratin cultivators of the agricultural centers, of the Tuareg's black servants, their former slaves. The collecting of their traditions, which are grafted on the framework of Tuareg customs, should be a work apart, for a serious study of the Blacks cannot be

000 /148 cont./ carried out in connection with one on the Tuareg. The atavistic fear of the Negroes before the imouhar renders them mute, and gaining their confidence is a long-range undertaking; to learn of their intimate life, their joys and sorrows, would require great patience.

Still, the original character of the Ahaggar lies in just this intimate fusion of two dissimilar ways of life: one will never really know this country without understanding both the Tuareg and the Negroes and realizing what the true feelings they have about each other are, beyond what we observe superficially each day.

NOTE. Forms of religions, according to Huxley, follow a psychological determinism according to which the superior monotheistic religions are supposedly discovered by "men of thought" and polytheistic religions by "men of action." It is reasonable to ask whether the Tuareg, who formerly were, above all, "men of action," did not, for that reason, conserve survivals from neolithic religious beliefs, /149/ and whether the French peace, suppressing their essential activity, did not give rise in them to a psychological current leading to meditation and favoring Islamization. For the presence of Arab marabout, chorfa, and tolba, however active they may be, is not sufficient to explain that religious current which tends to make Tuareg customs disappear.

Note on Tuareg Matriarchy

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562 The Ahaggar, which constitutes a sort of ethnic preserve where a system that is still feudal reigns, presents a sociological curiosity: a survival of the matriarchal family. This matriarchy, undermined by the growing influence of Islam, is tending to disappear. It is well to deny certain false ideas which circulate about the Tuareg family: "The woman

593 /149 cont./ commands." "Tuareg hospitality is characterized
562 by promiscuity, a sort of traditional prostitution." The truth
is entirely different. The origin of Tuareg matriarchy is certainly lost in neolithic customs; ignorance of the process of conception may have been the cause. This familial organization led to exogamy, which tends to disappear; incest is
[835] a crime more terrible than murder. Matriarchy is the guardian of the caste system; the duty of mutual assistance bestows on the warriors (nobles) part of the fruits of others' labor and
[548] gives them ownership of the land. Prostitution does not exist; monogamy is the rule; the woman is respected. "Maternal rights," as L.-G. Richard says, "consist rather of mutual obligations than of prerogatives or advantages." There is no female liberty, for the woman owes herself to her family; in fact, she exercises no rights whatsoever; she transmits them. A custom still practiced, characteristic of matriarchy, is the requirement for the young husband to live a certain time in his wife's camp.

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622 Let us repeat that Islam little by little is destroying the matriarchal customs, particularly insofar as succession is concerned, for they are increasingly regulated by Moslem practices. Today, the chiefs even desire to leave their power to their sons.

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VI

Conclusion

000 The Ahaggar is, I believe, the most engaging part of the Sahara -- and I have conveyed neither the picturesqueness of the scenery, the attraction it has for travelers, nor the anguish it sometimes instills in certain souls, when from October to

000 /151 cont./ February an extraordinary luminosity seems to merge the mountains, which are bathed in the most astonishing colors at sunset.

I purposely have not raised the economic problems which are posed; they are outside the scope of this work. Still, it is permissible to ask what the future may hold for these Tuareg, people from another age strayed into the twentieth century. The young Tuareg are certainly happy, their elders regret nostalgically the good old days of the raids; but the French peace, if it has changed their ancestral mode of life, has brought them a security that they appreciate.

The needs of the nomads are modest and are adapted to the region, but contact with us will create new needs; the populations of the north and the south, more evolved, will not fail, in the long run, to disturb this enviable serenity. Should they be kept in their present state and be considered an ethnic preserve, or should we hasten their evolution toward a more modern state of civilization? It will be regrettable, certainly, to see those tall, blue silhouettes, bearing medieval takouba at their sides, disappear; but a time will come when, on pain of extinction, the Tuareg /152/ will have to adapt themselves to the western world. This day is still far ahead -- let us hope so -- but our role is to prepare the natives of the Ahaggar for it gradually by bringing to them the elements of a choice that will perhaps permit them to make an original culture for themselves. What direction will that transformation take? It is still too early to say. This evolution may be hastened by the influence of outside contributions; the discovery of mining beds, for example, would upset the equilibrium which exists between the sedentary and the nomadic populations.

The Ahaggar should still be studied from many points of view; research is increasingly the prerogative of specialists, and it has even become urgent in the human domain, for the people who know the old customs, the marvelous legends, and the traditional songs accompanied by the imzad soon will disappear.

177 /152 cont./ Large-scale tourism has adopted the Ahaggar; mountain climbers count the virgin peaks still to be scaled and are guided by young Tuareg who begin to speak French. We cannot do otherwise than congratulate ourselves on the material results obtained, but how many Saharans miss, in the bottom of their hearts, the days of the monthly mail, evoking a fairly recent period but one which already seems long past? It was the period that drew them to the Ahaggar, which now is being led, little by little, to the light of this century.

/153/

Appendices

I

Historical Account of the French Occupation

175

February 16, 1881. The Flatters mission is massacred by the Kel Rela and Tédjéhé Mellet Tuareg, aided by a few imrad.

1887. A Taïtok raiding party is taken by surprise at Hassi Hinifel. Thirty Tuareg are taken to Algiers as prisoners for four years. It is with the aid of these Tuareg that Hanoteau will work out the first Tamashek grammar. One of these prisoners becomes the friend of the explorer Crampel, who later was to be killed by his so-called friend.

1898. The Kel Rela and the Taïtok are at war. The latter, defeated by Moussa ag Amastane, flee to the region of the Oulimiden.

1899. Commandant Pein, accompanied by Flamand, carries out a mission to occupy the Tidikelt, thus cutting the Tuareg off from their trading markets of Aoulef and In-Salah.

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/153 cont./ The Foureau-Lamy mission crosses the Ahaggar without being troubled at any time.

1900. The amenokal Aïtarel dies. The situation is confused. Two amenokal are named, Mohamed ad Ourzig and Attici. This double command brings on a state of anarchy which causes the Tuareg to turn to Moussa ag Amastane, a courageous, /154/ brillant man who speaks of a possible settlement with the French. The Taïtok, however, are the first to submit, chiefly because of their desire to act before Moussa, their personal enemy since the combats of 1898.

1902. After the pillage of a caravan by the Kel Ahaggar, Lieutenant Cottenest is sent to the Ahaggar to make an example of them. The account of this expedition, La Randonnée du lieutenant Cottenest /The Long March of Lieutenant Cottenest/, written by Commandant Cauvet, is required reading for an appreciation of the man to whom we owe the Ahaggar. After a circuit of Tuareg territory that attested to the qualities of the leader of the expedition, Cottenest gives battle at Tit, at the Tin-Essa gara. About 100 Tuareg are killed in making an assault with spears and sabers. The Dag Rali and the Adjouh n'Téhélé were the tribes that suffered most in this battle.

1903. Commandant Laperrine and his lieutenants make a peaceful tour of the Ahaggar.

1904. Moussa ag Amastane submits at In-Salah.

Commandant Laperrine, accompanied by Father de Foucauld, Gautier, and Chudeau, skirts the Ahaggar to the west and effects a liaison with the colonial troops at Timiaouine.

1905. Father de Foucauld settles permanently at Tamanrasset.

Lieutenant Roussel is the first commander of the Tamanrasset post.

175/154 cont./

1908. Incidents between the Kel Rela and the Taïtok; the latter are driven back to the Sudan.

1909. Incidents between the Kel Rela and the Tuareg tribes of the Ajjers.

1910. Moussa ag Amastane, the amenokal, goes to France to travel with Father de Foucauld.

1914. The territory of the Ajjers is occupied.

1916. New incidents between the Kel Rela and the Taïtok.

/155/ On December 2, 1916, Father de Foucauld is murdered at Tamanrasset by Senussites accompanied by Aït Loen, who carry off 20 rifles and 3,000 cartridges.

1917. Revolt by several imrad groups with the object of stealing camels from the French of the Sahara.

Captain Masson gives battle to a group of Tuareg in the Ilaman wadi on April 5, 1917. (Thirteen killed, two of them French soldiers).

On June 1, near Iniker, the detachment under Pietri is attacked. (Five killed, two wounded, two missing).

On July 26 Second Lieutenant Lehuraux has to battle a party of 300 Tuareg.

1918. Peace is re-established in the Ahaggar. The Taïtok are permanently ousted from their lands and are driven back to the Sudan.

1920. General Laperrine dies at Anesbaraka from injuries sustained in an airplane accident.

1921. Death of Moussa ag Amastane. He is succeeded by Akhamouk ag Yemma.

1925. The Taïtok lay claim to their lands confiscated by the Kel Rela, but the status quo is maintained.

1927. Death of Akhamouk. Meslar ag Amayas is elected amenokal.

1950. Death of Meslar. The caliph, Bey ag Akhamouk, is elected in 1951.

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II

Geology

133 Thanks to the work of C. Kilian, Th. Monod, J. Bourcart, and particularly to that of M. Lelubre, partially published, it is possible to give a general idea of the geological structure of the Ahaggar and to sketch in its history.

General view

A. The center of the massif is essentially crystalline, formed of very old rocks from the pre-Cambrian age, already partially leveled at the time of the transgression of the *tassili*. During the tertiary period there was a rejuvenation of the relief after a powerful volcanism. This mass with the crystalline base has an altitude of 2, 600 meters at the center of the massif; it slopes off at the periphery to form the trench separating the Atakor from the *tassili*.

B. The *tassili* are plateaus of nonmetamorphic sandstone. This sandstone surrounds the crystalline mass nearly uninterruptedly. Resting on the crystalline foundation are, first, conglomerates which constitute the lower sandstone of the inner *tassili*, then, sandstone in small columns, topped by graptolite-bearing schist (intra-*tassili* depression) and overlooked by the upper sandstone of the outer *tassili*.

The regions leading to the *tassili* show Devonian and Carboniferous formations with fossils.

M. Lelubre, going beyond the simple description of the rocks, has been able to determine the genesis and the geological history /158/ of the Ahaggar thanks to data from stratigraphy, lithology, and tectonics.

1. *Stratigraphy*. -- The schist which bears Gothlandian graptolites rests on nonmetamorphozed Ordovician, or perhaps Cambrian, sandstone, itself resting on a thick base of

133 /158 cont./ conglomerates which are unconforming on folded, granitized, and leveled crystalline schists; this permits the deduction that the lower crystallophyllian parts are pre-Cambrian. Furthermore, M. Lelubre has discovered in the pre-Cambrian crystalline region a Suggaro-Pharusian unconformity, thus showing the existence of an ancient Pharusian basin stretching like an immense north-south trench between two Suggarian massifs. The two lines of unconformity followed by M. Lelubre are marked by rhyolite massifs which emerge from the present-day reg, marking a former volcanism at the edge of these submeridian fractures similar to the recent breaks in eastern Africa. The eastern line of unconformity follows the 5° east longitude from the Adrar In-Hédrane to the north up to the eastern edge of the Tassili de Tin-Reroh; the western line goes from the In-Zize massif up the Adrar des Iforas (40 kilometers west of Tin-Elhaoua); it goes along the western border of the Tassili de Timissao. These two orogenic cycles, Suggarian and Pharusian, have their own special metamorphism, granitization, and foldings.

2. *Lithology*.--The main rocks surveyed by M. Lelubre are the crystalline schists, the granites, and the vein-bearing rocks /*filons*/.

The crystalline schists (mica schist, gneiss, etc.) form large mountains; Egéré, Arefsa, Tourha; they dominate in the Suggarian and Pharusian series.

There are granites from different ages. Those of the Pharusian type seem to be "punched out," having produced metamorphic aureoles by contact, such as the Serkout, In-Tounin, Tesselit. Other, older granites appear in "large elongated north-south ellipses"; the Tefedest massif is one of these types.

The main vein-bearing rocks are the microgranites: Tarahouaout and Sersouf regions. Pegmatites are /159/ abundant in the granites and the gneisses; veins of quartz seem to fill vast cracks and form long mountains: border of

/*159 cont.*/ the Igharghar wadi. The rhyolites form enormous massifs west of the Ahaggar, aligned in two long belts. Nice series of cipolins and marbles, only calcareous rocks of the Ahaggar, are found in the Egéré, the Tourha, and at Azrou. Finally, volcanic rocks cover immense areas, particularly in the center of the Ahaggar.

3. *Tectonics.* -- Due to the resistance to erosion of the cipolins, M. Lelubre has been able to inspect a very old flexible dislocation upon which a faulted dislocation is superposed: a phenomenon perhaps resulting from Pharusian *orgénèse*. /Note: the latter word doubtlessly is a misprint for *orogénèse*, "mountain building." -- Tr./ Then, Hercynian tectonics are marked in the *tassili* by very large fold-faults. Finally, there are fractures, resulting from the under folds of the Alpine system, which doubtlessly are linked with recent volcanism.

Geologic History of the Ahaggar

1. *Pre-Cambrian*

a) *Suggarian cycle*. Nearly all the crystalline schists of the Ahaggar are from this age. It is almost impossible to set up time divisions during this period which witnessed intense sedimentation followed by folding of the Appalachian type. This cycle ended by the emersion of the Suggarian chains.

b) *Pharusian cycle.* A long period of erosion followed, filling in the inter-Suggarian furrow. These series underwent a less intense metamorphism than in the preceding cycle. Heavy folding occurred and "punched out" granites later appeared. Rhyolite emissions may be placed in the lower Pharusian.

/159 cont./

2. Tassili Transgression. Hercynian Cycle.

The conclusion of the Pharusian cycle marks the end of the depth history of the Ahaggar, which from then on consists of a solid system /160/ reinforced by granitic intrusions. An erosion of long duration affected this old massif. It cannot be said whether or not the transgression which followed reached the whole Ahaggar, but its extent shows that it was on a continental scale.

Certain schists contain the first dated fossils: graptolites from the lower Gothlandian. In an upper series, Conrad Kilian has been able to show periods of lagoons, which represent light Caledonian movements. Conglomerates separate the post-tassili series which is ascribed to the middle Devonian or the Carboniferous. This uncovered series is affected by deep Hercynian folds, with the most striking example being the great fault of Tadjemout. It is not known to what extent this folding has affected the crystalline substratum.

3. Cenomanian Transgression

The great marine invasion which covered the Sahara in the middle Cretaceous and cut Africa in two spared the Ahaggar. C. Kilian has found merely a little Cretaceous material in the Amguid region. This doubtlessly was the last incursion of the sea, and it seems really to be a question of no more than a gulf.

4. Alpine Cycle

It was not until the Alpine folding that one sees an orogenic manifestation in Tuareg country. We may admit as true that the reaction to this folding caused volcanism in the Tertiary and the Quaternary, the lava of which covers a large part of

133 /160 cont./ the Ahaggar and which must have lifted the central core. A thorough study of this volcanism has not yet been made by specialized geologists (1). Perhaps it will be possible to /161/ separate the essential phases of this eruptive whole.

Study of the Quaternary has not been undertaken. Such a study would perhaps enable us to establish some points very interesting for archeology, notably the advances and retreats of the desert climate.

/163/ III

Meteorology

132 Following are some figures concerning meteorology, furnished by the Tamanrasset observatory and the O. N. M. station.

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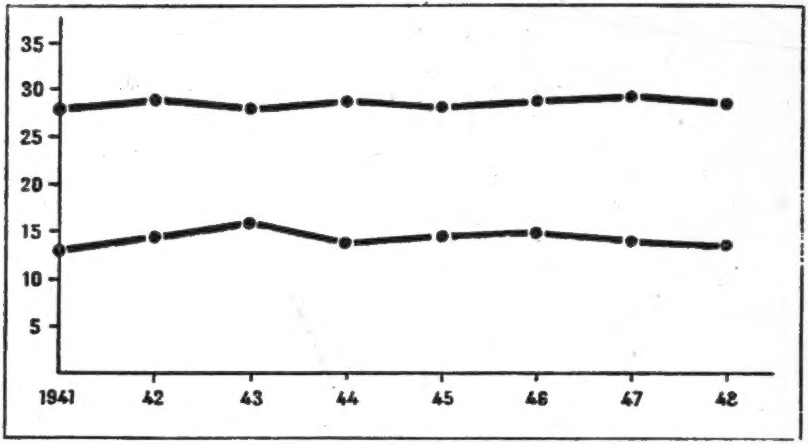
1. Since 1950, P. Bordet has been studying volcanism in the Ahaggar. M. Lelubre's thesis on the pre-Cambrian in the Ahaggar was published during the Geological Congress of Algiers in October, 1952. On this occasion several regional monographs concerning the Ahaggar were published: *L'antécambrien de l'Ahaggar* /The Pre-Cambrian in the Ahaggar/ by M. Lelubre; *Les appareils volcaniques de l'Ahaggar* /Volcanic Mechanisms of the Ahaggar/ by Bordet; *Ahnet et Mouydir* /Ahnet and Mouydir/ by J. Follot.

/163 cont./

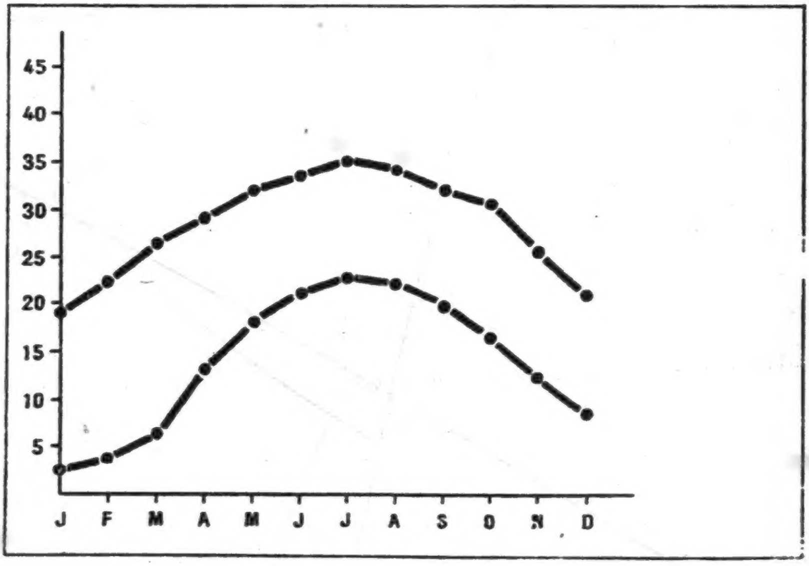
For a period covering 1925 to 1939:

1. Temperature	
Average of the maxima	28.6°
Average of the minima	13.6°
M + m/2	21.1°
Amplitude M - m	15°
Extreme maximum	39°
Extreme minimum	-6.6°
2. Relative humidity	
Annual average	33% at 7 a.m. 21% at 1 p.m. 23% at 6 p.m.
3. Cloudiness	
Annual average	2% at 7 a.m. 2.8% at 1 p.m. 3.3% at 6 p.m.
4. Rain	
Annual average	43.8 millimeters

132



Curve showing the average of maxima and minima from 1941 to 194



Curve indicating the monthly average of maxima and minima for 194

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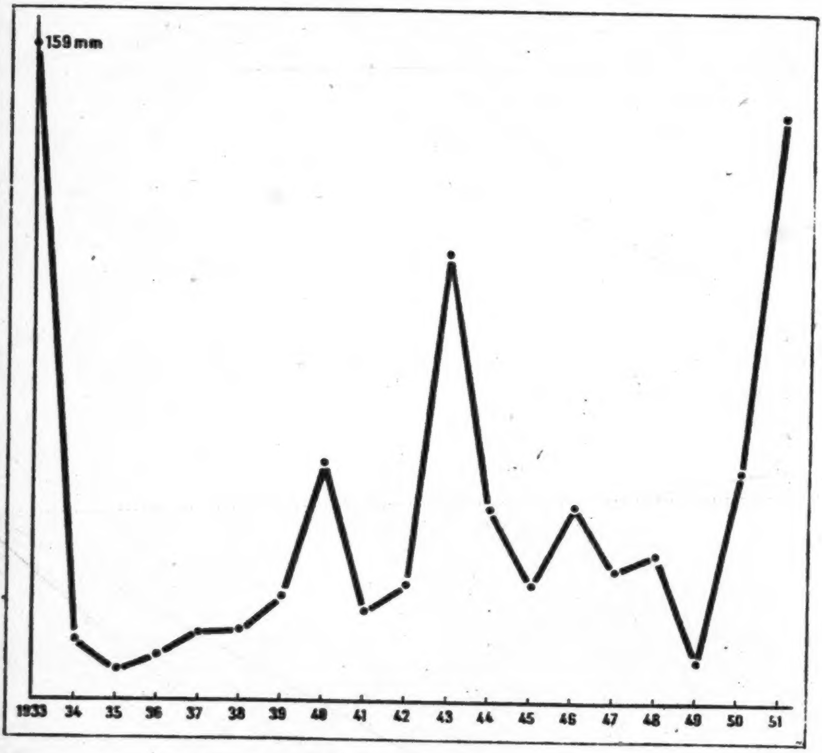
5. Annual precipitation from 1933 to 1951 (in millimeters) 132

1933 : 159
1934 : 14.1
1935 : 6.4
1936 : 10.3
1937 : 15.9
1938 : 16.6
1939 : 26
1940 : 58
1941 : 22
1942 : 28.8

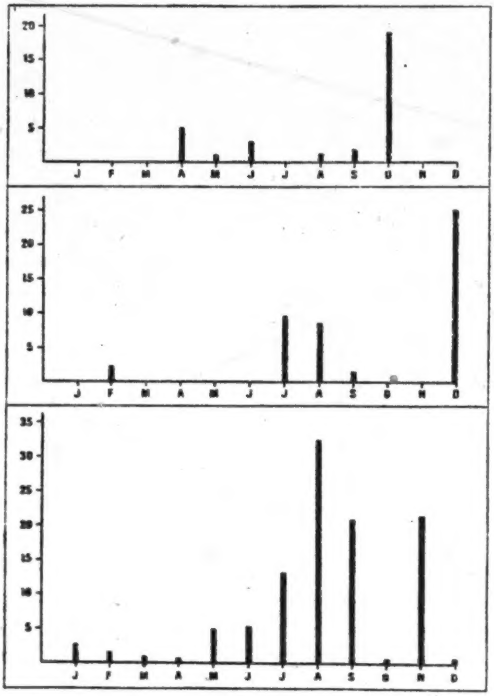
1943 : 108.5
1944 : 45.9
1945 : 28
1946 : 47.5
1947 : 31.3
1948 : 35.5
1949 : 9.4
1950 : 56.2
1951 : 141.4



Annual Rainfall from 1933 to 1951

/166/

132



1945: Year of light rainfall.

1944: Year of average rainfall.

1943: Year of heavy rainfall.

Distribution of rain during the course of the year.

6. Monthly precipitation during a rainy year

1951:	January	0.8	July :	1.4
	February . . .	1.6	August	18.8
	March.	0	September · ·	96.4
	April :	0	October. . . .	0
	May	0	November . .	0.2
	June.	14.9	December . .	0

7. Monthly precipitation during a dry year

1949:	March·	5.3	July·	1.2
	April	2.1	August	0.8
	The other months	0		

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Remarks on the Rainfall

132 M. Dubief of the Algiers *Institut de physique du globe* has made a very interesting study of the rainfall in the Ahaggar territory, using information furnished by the Tuareg and covering 80 years for the central Ahaggar and 60 years for the Ahnet and the Mouydir.

This research shows that the system of rains in the central Ahaggar is unrelated to that of the northern Sahara.

Moreover, the distribution of the rains in the central Ahaggar has some relation to the distribution in the Tefedest, little to that of the Mouydir, and none to that of the Ahnet; it is completely independent of the Tamesna.

Finally, the dry periods do not seem to exceed seven years (the term "dry" is not used here in its meteorological sense, but relatively speaking, indicating for the nomads a lack of pastures).

Some Tuareg claim to have observed a cycle of seven years in the duration of the ground-water level.

The observations made at Tamanrasset record as years of heavy precipitation: 1924, 1933, 1943, and 1951, which would give a cycle of about nine years.

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IV

Wells or Water Points on the Caravan Trails

From Tamanrasset to Tin-Zaouaten

103 *Amsel*: *Tiggert* /natural outflow of water/ and *tanout*
312 /well for irrigating gardens/. Permanent agricultural center.

Tin-Tounatine: *Tigget* /*sic*/ and *abankor* /water hole/ in the Tamanrasset wadi.

103
312

/169 cont./ Amselka: Permanent well in the Tamanrasset wadi.

Tinef: Permanent, plentifully filled well, 1.20 meters deep, in the Tamanrasset wadi.

In-Abalesse: Permanent abankor, 0.50 meters deep, in the Tamanrasset wadi.

Tidjenaouine: Agricultural center in the Tamanrasset wadi.

In-Amelloutine: Plentifully filled abankor, 0.60 meters deep, in the Tamanrasset wadi.

Timdjaouine: Ten kilometers south of the Tamanrasset wadi, Mount Debla, fairly plentiful water, ten meters deep.

Abankor ouan Mellouline: In the Immazarène Tin-Reroh wadi, east of the tassili. Not very plentiful.

Tin-Reroh: In the tassili, plentiful, permanent, 40 kilometers from the automobile road.

In el Tobol: In the Adrar In el'Tobol, not very plentiful, 15 kilometers from the automobile road.

In-Tedeini: Six kilometers north of Tin-Zaouaten, permanent, ten meters deep, shored up with gasoline drums, three kilometers from the automobile road.

/170/ Tin-Elhaoua: In the Tin-Elhaoua wadi, ten kilometers north of Tin-Zaouaten. Lined shaft, with stone drain, never dry.

Tin-Zaouaten: Three wells, a temporary guelta /natural pool/.

From Tamanrasset in the direction of Tessalit (Sudan)

Up to Silet, various agricultural centers.

Timissao: Well in the wadi, north of the tassili, shored up with stones. Very plentiful water, nevery dar. Depth: six meters.

Tamada: Temporary guelta, rarely dry, east of the tassili, surface about five meters square; very deep.

103 /170 cont./ In-Azaoua: Southwest edge of the tassili.
312 Well, 1.50 meters, never dry.

Tiggueurt: Copious spring, in a tassili valley, three hours' march southeast of In-Azaoua, two hours to the west of Tamada. Site unusual because of verdure.

Aguelman de l'oued En-Nefis: Temporary guelta two hours' march from In-Azaoua.

Ameg: Permanent guelta in an outlier of the tassili, south of Tirek, at the head of the In-Allarène wadi.

Tirek: Permanent guelta, plentiful water, in the northern part of the Tirek ta Settefet tassili.

In-Ouzzal: In the In-Ouzzal wadi, near the confluence of the Ighelian wadi. Plentiful. Depth: eight meters.

In-Djezzal: Plentifully filled well, never dry, 23 meters deep.

Timiaouine: Permanent lined well, never dry, eight meters deep.

From the Adrar des Iforas (Timiaouine) toward the Tidikelt

The wells of Ilafok and Guernen are filled in; in winter the caravans go straight to In-Ziza, in summer they pass by Timissao.

In-Ziza: Very large guelta, about 20 meters square, varying from five to ten meters in depth, never dry. There are 17 others.

/171/ Aït el Kra: Very copious tiggert in the tassili sandstone near Foum-Ezgag.

Tin-Senasset: Fairly copious spring.

Tin-Eddi: Poorly filled well, sometimes dry.

Tin-Akhenfous: Permanent well.

Tikebetatine: Four or five springs, fairly copious flow.

In-Rhellal: Poorly filled well, 150 kilometers from the first wells of the Tidikelt.

/171 cont./ From Tamanrasset toward In-Salah

103
312

By the automobile road:

Outoul: Agricultural center.
Tit: Agricultural center.
Tilok: Well.
In-Amguel: Agricultural center.
Iniker: Plentifully filled well.
Tesnou: Plentifully filled well.
Amsir: Well.
Meniet: Well.
Arak: Tiggert and guelta.
Tadjmout: Agricultural center, spring.
In-Takoula: Well.
Tiguelguemine: Guelta.
Djoraf: Hot spring.
Hassi el Khenig: Brackish water.

By the camel trail, west of the automobile road.

From Tamanrasset to Abalessa: Various agricultural centers.

Tin-Felki: Large well, never dry, in the Tekouiat wadi.

Tinn-Maroka: Very plentifully filled well in the Afesfes wadi.

Amsir or Arak.

Hassi Takoumbaret: Permanent.

Hassi Belrem: Plentiful, last well before the Tidikelt.

/172/ List of Selected Wadis

Atakor region:

Northern slope, whose waters are collected by the In-Amguel wadi, which flows toward the Tekouiat and which loses itself in the Tanezrouft to the south of In-Zize.

/172 cont./

103 Issakarassène wadi	toward the In-Amguel wadi
312 Hirafok wadi	
Ifrak wadi	
Tidjilgaouine wadi	
Abdassène wadi	
Zerzoua wadi	
In-Tehoulli wadi	

Southern slope, whose waters are drained by the great Zazir and Tin-Amzi wadis, which flow toward the valley of the Azaouak.

Tefougigine wadi	toward the Tin-Amzi wadi
Ihérane wadi	
Izerzi wadi	
Ihoular wadi	
Taguiemoute wadi	
In-Tarkit wadi	
Teredjine wadi	toward the Zazir wadi
Effeg wadi	
Anfeg wadi	
Tihararte wadi	
Ahahabarougue wadi	
Téguerine wadi	
In-Dalag wadi	toward Irharraar (southern)
Tahifet wadi	
Tarahouaout wadi	
Foutès wadi	

Eastern slope, whose waters flow toward the Tin-Tarabin /173/ wadi, which itself joins the valley of the Azaouak.

Itakaline wadi	toward Tin-Tarabin
Azrou wadi	
Tiféréfine wadi	
Tilékine wadi	
Sersouf wadi (of Aïtoklane)	

/173 cont./

103	Afrahounine wadi	toward Tin-Tarabin
312	Tibelarhlarhène wadi	
	Tigoulgouline wadi	
	Telhouat wadi	toward Igharghar (northern)

Western slope, all the waters of which join the Tamanrasset wadi, either directly or by its large affluent, the Amded wadi.

Tilok wadi	toward the Amded wadi
Ilaman wadi	
Terhenanet wadi	
Outoul wadi	
Tit wadi	
Selbourak wadi	
Tiffert wadi	
Abalessa wadi	
Tisatine ouan Tiratine wadi	toward the Tamanrasset wadi
Tinef wadi (which drains the waters of the Tahelra)	
Imezzarene ouan Tin-Reroh wadi	
Silet wadi	
Aguelman wadi	

Region north of the Adrar des Iforas and of the southern tassili

Slope of the Tamanrasset wadi:

Inouzzal wadi
Ilafer wadi
/174/ Ilafok wadi
In-Kadiouène wadi
Temesguidda wadi
Tirek wadi
Iller wadi

Slope of the Azaouak:

Tin-Zaouaten wadi
In-Atankarer wadi

/174 cont./

103 Anesbaraka wadi

312 Slope of the Timersoï wadi:

Izedelazen wadi

Region of the Tefedest:

Western slope of the Tefedest: the waters flow toward the Tekouiat wadi.

Ohet wadi
In-Takoufi wadi
Idjioualène wadi
Sersouf wadi
Mertoutek wadi
Abezzou wadi
Adenek wadi
In-Ebeggi wadi

Eastern slope of the Tefedest: all of the waters empty into the great Igharghar.

Taharakit wadi
Idelès wadi
Dehine wadi
Aguelmam wadi
Ousselatine wadi
In-Berhadjane wadi
Tin-Kerkoz wadi
Amrha wadi

toward Igharghar

Ahatès wadi

/175/ Southern slope of the Tefedest:

Takormiasse wadi
Aethès wadi
Tin-Eleft wadi

toward the In-Amguel wadi

Region of the Immidir and the Ahnet:

The waters flow chiefly toward the north, losing themselves in the sebkha of the Tidikelt; they are mainly drained by the Botha and Djaret wadis.

/175 cont./

103 Arak wadi
312 Gourdane wadi
Tadjmout wadi
Tiratimine wadi
Tibratine wadi
Takoula wadi
Takoumbaret wadi
Asabaï wadi
Amguid region, slope of the Igharghar:
et Tarara wadi
Hesses wadi
Rharis wadi
El Mahek wadi
Teghert wadi
Hamsa wadi
In-Herreki wadi

Region east of the Serkout massif:

This part of the Ahaggar is very little known; the wadis are tributaries of the Tafassasset wadi.

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V

Flora

137 824 Tamahaq Name	Arabic Name	Miscellaneous Observations
Ahtès		Acacia albida. Rare.
Aliou		Olea laperrini. In the high mountains.
Adjiar	El Iatim	Argan tree (?). Hardwood, pasturage for camels, edible berries.

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824

Tamahaq Name	Arabic Name	Miscellaneous Observations
Azaoua	Fersig	*Tamarix gallica*. Good pasturage. *Khecba* for roofing, *zéribas*.
Taberkat	Ethel	Softwood, used for bowls and spoons, salty pasturage; the fruit colors leather red.
Tamat	Tahala	*Acacia seyal*. Good pasturage, hardwood.
Absaq	Tahla	*Acacia tortilis*. Good pasturage, hardwood.
Teborak	Techat	*Banalites aegypticae*. Used for common objects; edible fruit, cough remedy.
Tihok	Irak	Shrub, softwood, used for cleaning teeth.
Telothat		Firewood.
Tedjert	Tedjert	*Acacia eburnea*. Seeds used in tanning; thorns; nails for *rahla* /camel's saddle/.
Tezzeit	Nakhla	Palm.
Thora	Kranka	*Callotropis proscera*. Wood for *rahla*; the sap causes ophthalmia.
Tehounek	Jeddari	Found in the Atakor. Firewood; used for tanning *guerba* /waterskins/.
Assellouf	Elhelhab	
Tarkat		Fruit which tastes like grapes, size of a jujube.
Edjaq		Hardwood, used to make rosary beads.

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Spontaneous Flora -- Herbaceous Vegetation -- Pasturage

Tamashek Name	Arabic Name	Miscellaneous Observations
1. Tiberimt	Lemmet	Pasturage for asses, to a small extent for goats, tastes like celery (umbelliferous).
2. Ennedam		Acheb /pasturage/ plant.
3. Tamadi		Acheb plant.
4. Tamedout		Acheb plant.
5. Azrem	Merkad	Acheb plant.
6. Ourroug	Errega	Acheb plant.
7. Tahaout	Rguig	Acheb plant.
8. Tahnetnet	Tafsa	Perennial plant.
9. Afessour	Chereʾlk	Acheb plant.
10. Tanesmimet	Hamoued	Acheb plant; acid.
11. Afazzou	Morakba	Panicum turgidum. Seeds eaten by the Tuareg; used, with straw, for making wind-breaking mats (asaber).
12. Akaʾlouad	Jonc	Typha augustifolia. For goats.
13. Akecheker	-	Thorny plant. Permanent pasturage.
14. Adrilal		Astralague prolixus. A sort of wild pea, very good pasturage.
15. Alemmoz	Nçi	Aristida ascencionnis. Very good pasturage, in the zone of the peripheral trench after the rains.
16. Telemmoust	Sfar	Very good pasturage. Zone: same as above.
17. Aslak	Habalia	Acheb plant. Héliotropium ondulatum.

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824

Tamashek Name	Arabic Name	Miscellaneous Observations
18. Imatelli		Acheb plant.
19. Askaf	Damrane	Traganum midatum. Very scarce in the Ahaggar, region of Tiffert.
20. Tadjemaït	Njem	Couch grass, near water points, mediocre pasturage.
21. Affelleleh	Bettina	Henbane. C uses madness for two or three days; its smoke is somniferous.
22. Aressou	Arta	Good pasturage.
23. Amateltel		Climbing plant, particularly on acacias, the size of a vine. Good pasturage.
24. Atarzim	Ghardek	Lotus of the Lotophagi (?) according to Duveyrier.
25. Alaouat	Gergir	Very good pasturage. In the large wadis after floods. Peripheral trench and Iforas.
26. Aremmas	Guettaf	Atriplex alimus. Laxative, very salty, mediocre pasturage.
27. Tabakat	Sedra	Jujube tree, Zizyphus lotus. Average pasturage, except for asses. /179/
28. Almès	Guesba	Reed.
29.	Defla	Oleander (poison, except for goats and gazelles).
30. Tedjellit	Coloquinte	Colocynth. Gazelles, goats, asses.
31. Alagoz	Hadjia	Sweet colocynth, edible.
32. Aftezza	Chebrok	Zilla macroptéra. Very good pasturage.

/179 cont./

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824

Tamashek Name	Arabic Name	Miscellaneous Observations
33. Issin	Djell	Fairly good pasturage.
34. Rellachem		Grows in the mountains, scarce, remedy for gonorrhea and cough.
35. Tahara	Hâdd	Cornulaca monacantha. Very good winter pasturage, poor in the summer.
36. Ana	Merkh	Ginista saharae, broom. Very good pasturage.
37. Tadjerdjert		Purgative. Fairly good pasturage.
38. Tahiart	Tinhart	In the seguias /irrigation canals/ of the agricultural centers, used to perfume tea.
39. Tahli	Berdi	Formium tenax. Type of large reed which grows near the tiggerts /natural outflows of water/; pasturage for goats. In times of scarcity, the heart is eaten.
40. Taïberou	Bouzaka	Poison, rare (Atakor). No antidote.
41. Tassa	Elbaguel	Mediocre pasturage.
42. Tanatfert	Ghatassa	Makes milk bitter.
43. Toulloult	Drinn	Aristida pugens. Very good pasturage, seed edible in same way as that of afazzou (three parts to one of wheat).
44. Teferiest	Tesskra	Thistle, scarce, good pasturage.
45. Takamezout	Chedengoura	Only in the Atakor. Sure cure for dysentery; yields 14 remedies.

/179 cont./

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824

Tamashek Name	Arabic Name	Miscellaneous Observations
46. Zezeri	Zahta	Atakor. Is put in tea.
47. Tihéréguéli	Chih'	Perfumes tea, remedy for colic.
48. Amiou	N'gouth	Good pasturage.
49. Tamadjéhi	Kroumt	Very good pasturage.
50. Tataït	Elgouzah	Good pasturage.
51. Olaq	Mrenza	Mixed with crushed dates, fattens women. Bad odor.
52. Tedjourt	Hallala	Remedy for gastric troubles.
53. Terfes	Terfes	A sort of truffle.
54. Aliouen	Denoun	A sort of large asparagus.

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VI

Tools

412 Here is a list of tools used by the maalmine; many of them are made by the users:

Tisadh: double-pocketed bellows.

Abaracha: piece of wood 50 x 20 x 6 centimeters, serving as support for an iron mass used as an anvil.

Tehount: iron mass 6 x 6 x 15 centimeters used as an anvil.

Afadis: hammer.

Tafadist: small hammer.

Irendan: tongs.

Takadimt: adz.
Tataout: chisel for wood.
Tadouft: ax.
} Neolithic-type hafting.

/181 cont./ Azazaoua: file.

Tazazaouat: small file.

Tasarest: burin.

Asfed: punch.

Timouda: shears.

Azazaoua ouan aserer: file for wood.

Anefif: ferrule for bellows.

Tibin: crucible.

Following is a list of objects made by the *maalmines* for the Tuareg; this list is certainly not complete.

/182/ Tanast: special Tuareg padlock, well known to tourists; the keys are artistically cut out and are not one of the least of the women's ornaments. Iron, brass, and copper combine to give a pleasing effect. There are padlocks with one, two, and three keys, work complicated for its own sake, as these *tanast* lock leather sacks which can be opened with a slit of the knife or by loosening a seam!

Tadeft: small ax.

Moussi: knife with sheath, worn at the waist.

Indel: punch for leather work.

Iremdan (*menguech* in Arabic): an accessory consisting of a cutting blade, an awl, and small pincers.

Tazozlet: a kind of paper knife with a triangular blade of artistically worked brass. In Tuareg society it is not used as a paper knife but as a hair-dressing tool used to separate strands of hair before braiding.

Tistent: awl.

Tesougla: large sewing needle.

Allar: the Tuareg spear.

Takouba: the saber.

Tarada: the javelin.

Tilok: arm dagger.

Tamenast (*menassa* in Arabic): brass basin, indispensable accessory for every meharist, used for drinking, washing, making bread, digging *abankor* /water hole/.

412 /182 cont./ For the harratin, the maalmines make the hoe called aguelhim and the gheniet, which is a trap for wild sheep.

412 The Tuareg use wooden objects made by the maalmines;
415 these are mainly cooking utensils.

Akous: bowl for drinking milk. It often has small ears for easier gripping.

Azzka: is a very large akous capable of holding nearly six liters.

Tarahout: large, almost hemispherical dish, carved out in one piece. The wood is three centimeters thick. It is used for family meals.

/183/ Tarelalt: large dish with a fairly flat bottom; may be as large as one meter in diameter (rare).

Tendi: the wooden mortar.

Iharen: the wooden pestle.

Akabar: small mortar, sometimes pyrographed.

Tesoukalt: pyrographed wooden spoon.

Temoulalt: large pyrographed spoon (ladle).

Asseguefi: small wooden funnel.

Redjeredjaten: stakes for holding up the tent.

Tidjetouin: stakes with ornamented heads for holding the tent open.

492 Tarik (rahla in Arabic): the camel saddle. The maalmines of the Ahaggar repair them but do not make them; the most handsome ones come from the Aïr; these are the ones called tamazak and the akoka. However, the maalmines of the Ahaggar make a wholly wooden saddle called taïst, sturdy and used mainly for training the animals.

301 The principal jewelry worked in the Ahaggar is the following:

Tisak: the ring, of silver. Certain models have the lower part made of iron. The height of the rings is impressive: four to five centimeters; they entirely cover the lower part of the women's fingers, setting off the length and delicacy of their hands.

301 /183 cont./ Tisabatin: The tisabatin are ear pendants, simple rings of silver whose diameter is about ten centimeters; two tisabatin weigh 120 grams.

Teraout: large silver triangle worn on the chest; the hidden side is made of iron.

Ahbedj (plural: ihebdjen): The women always wear two. They are bracelets, the most popular type of which has the form of a simple ring with an opening. The two ends are polyhedral and are decorated with geometrical designs.

Tissegouar: silver pendants for the temples.

The Tuareg do not use gold; silver alone is used to make jewelry and the amulet cases called teraout.

The men wear smaller rings than the women.

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List of Agricultural Centers

103
361
621 Abalessa (altitude: 850 meters).

This was the largest agricultural center before our arrival in the Ahaggar; since then, Tamanrasset has surpassed Abalessa.

Abalessa is located 100 kilometers west of Tamanrasset in the Ibarras wadi at the confluence of the Abalessa wadi, which receives the waters of the Tit, Outoul, Tiffert, and Iglène wadis.

The population consists of more than a thousand harratin.

The cultivable surface is 150 hectares during favorable years; generally, the crops cover 80 hectares.

The owners of the gardens are some Kel Rela, Taïtok, Dag Rali, and Iklan Taoussit.

There are 11 foggara, the longest and deepest in the Ahaggar; some reach six kilometers in length, and the head wells are eight to ten meters deep.

103 /185 cont./ Approximately 300 palms grow freely or
361 nearly so; almost all have grown from nuts, and half are
621 dokkar (males)

Abalessa has a bordj /a small fort or solidly constructed house/ and an infirmary.

The tumulus of Tin-Hinan is located two kilometers from the bordj in the Tiffert wadi.

Centers of the Tiffert wadi.

Tounin Akourin.

A small center seven kilometers upstream from Abalessa. Two foggara and a tanout.

/186/ The amenokal has his permanent camp near gardens that he owns.

Tiffert Foulani.

Five kilometers upstream from Abalessa. Three foggara. There are about 30 palms. An active center, it is owned by the local harratin. Here is the residence of Si Ahmed Foulani, a well-known taleb /scribe/, who plays the role of cadi for the Tuareg.

Tiffert Tahtani.

Three kilometers upstream from Abalessa. Three foggara. Active and permanent center. Small village constructed of toub, overlooking some 40 palms.

Tin-Tazarouk.

One kilometer from Abalessa on the trail to Silet. One foggara. Zériba. Large quantity of diss (a large grass).

Centers of the Outoul wadi.

Outoul.

A long-abandoned center which is being revived; located between the old and new trails to In-Salah, 20 kilometers from Tamanrasset. Five foggara, two of them upstream. Several fruit trees.

Tahart.

Eighteen kilometers downstream from Outoul. Three foggara and one tanout. Owners: Taïtok and Tédjéhé n'Néfi.

103 /186 cont./ About 100 palms, numerous fig trees and
361 vines. A tiggert with abundant tahli. Very picturesque site.
621 Assileskine (altitude: 960 meters).

Center located six kilometers downstream from Tahart. Often abandoned. Owners: Taïtok. Three foggara, about 30 residents. Vines and several young palms. Rock drawings near the zéribas.

Ennedid (altitude: 914 meters).

Four kilometers downstream from Assileskine in a gorge at the confluence of the Outoul wadi. About 60 residents, nearly 100 palsm. Owners: Kel Rela, Dag Rali, and Iklan Taoussit. Very pretty site.

/187/ Centers of the Tit wadi.

Tit (altitude: 1, 127 meters).

Located in the Tit wadi, 50 kilometers from Tamanrasset. Fairly important center, more than 100 residents, houses of toub and zeribas. About 30 palms, numerous fig trees, and enormous vines. At this time, four foggara. Very important site for rock drawings.

Tin-Emensar.

Ten kilometers downstream from Tit. Abandoned center.

Dar Mouli.

Three kilometers downstream from Tin-Emensar, a small garden is cultivated. Site of an annual celebration where the Tuareg gather for the ziara of Moulay Abderrahmane.

Centers of the Tamanrasset wadi.

Tamanrasset (altitude: 1, 470 meters).

Fort Laperrine, administrative headquarters of the Ahaggar.

The military bordj was constructed in 1919 and used in 1920 after the abandoning of Tarahouaout.

In 1920, Tamanrasset had 40 residents. It was a small, unimportant center with three foggara; a few rare éthel and fersig lined the wadi.

6:Blanguernon--173 Y-5 (1937-1954) 1955 MS25 Tuareg MS25
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103 /187 cont./ The French occupation created out of nothing
361 the built-up area which became a road center after the
621 creation of automobile roads from Tamanrasset toward In-Salah and Algiers;

from Tamanrasset toward Agadès and Fort Lamy;

from Tamanrasset toward Tin-Zaouaten and Gao.

Secondary roads of local or tourist interest were later opened:

from Tamanrasset to Djanet by way of Idelès and Serouanout;

from Tamanrasset to Idelès by way of Tarahouaout, Tahifet;

from Tamanrasset to In-Azaoua (not completed);

from Tamanrasset to the Asekrem massif by way of the Illamane peak (tourist);

from Tamanrasset to the Asekrem massif by way of the
[491] Imalaoulaouen guelta and the Akarakar. This road, finished in 1952, makes it possible to circle around the high peaks of the Atakor; it /188/ completes the one mentioned just before. Its route, laid out by the head of the Tamanrasset annex, provides maximum protection against the rains; it discloses a succession of splendid panoramas and ends at the foot of the Asekrem plateau after having crossed the strangest assortment of peaks imaginable. This road is prolonged in the direction of the Issakarassen guelta, then will continue toward the Hirafok agricultural center to end in the Tefedest.

[439] Arab and Mozabite merchants very quickly installed themselves at Tamanrasset, offering merchandise coming from Tell and buying wheat, millet, and butter from the Tuareg, making usurious loans, in a word, draining away the Tuareg's small supply of cash to direct it toward the Mzab.

The houses are built for the most part on the right bank of the wadi in the nonirrigable areas. Tamanrasset has no local color whatsoever, but the red tint of the exterior plastering, the cleanliness and charm of the streets shaded by éthel and adorned by geraniums, produce a pleasing over-all

103 /188 cont./ effect. An admirable and almost unique thing
361 in the Ahaggar is the circle of mountains which surrounds the
621 village; from the south bank of the wadi the view at sunrise
or sunset is sensational.

At the present time Tamanrasset has some 20 *foggara* and a dozen *tanout*. The owners of the *foggara* are: the commune, some Adjouh n'Téhélé, some Tédjéhé n'Néfis, some *harratin*, and some merchants. The *foggara* are from four to five kilometers long. The gardens extend nearly six kilometers from the *ksar* /former fortified village/ of the Adriane to the *ksar* of Teggert. The cultivated area is about 70 hectares, counting the gardens of the small center of Tihegouine three kilometers downstream, watered by a *foggara*.

The commune owns a magnificent garden where all sorts of fruit trees are tried; it sets an example for the local gardeners. Many European houses have a small garden irrigated by *foggara* or by well.

The present population is about 2,000 residents. This enormous growth in population presents a terrible /189/ water problem. It appears that an agricultural center in the Ahaggar cannot grow indefinitely without considering hydraulic works.

103 Tamanrasset, although favored from the point of view of
361 water resources, is a proof of what could be attempted in the
621 other agricultural centers if the French could advise the
harratin and furnish them examples.

648 The French population is divided in the following way:
A captain, annex head, administrator of the commune.
Two or three officer assistants.
Secretaries.
A school. Seven teachers, three of them nomads.
An observatory of global physics. Three physicists.
A telecommunications service. Four radio operators, two weather men.

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/189 cont./ A branch of the Company of Tropical Transportation.

An auxiliary postal receipts office.

A hotel.

A few retired persons at Tamanrasset without occupation.

From the military point of view, Tamanrasset is generally the base for a company of the camel corps. Units of the Saharan Engineer corps maintain the road from In-Salah to Tamanrasset and Agadez.

The French population totals about 120 persons; this number is subject to frequent fluctuations.

The number of Mozabite and Arab merchants, including their families, comes to about 100 individuals.

There are about 1, 900 harratin, an approximate figure, for many gardeners come and go from one agricultural center to another.

It is impossible to speak of Tamanrasset without thinking of General Laperrine and Father de Foucauld. The body of the general rests at Tamanrasset near the tomb where the priest was buried after his tragic death. The bordj where Father de Foucauld lived during the last years of his life is a tourist attraction; it is also possible to visit the hermitage built by the Father on the wadi's left bank.

/190/ Near the village of Adriane are found the tombs of Moussa ag Amastane, the Laperrine's amenokal friend, and of Dassine, the famous poetess.

In the house which was Moussa ag Amastane's, the maalmines, artisans of the Tuareg tribes, work.

Tamanrasset, administrative center, a necessary stop on the road from French West Africa and from French East Africa, is also an airplane stop destined to become more and more important.

Tourism tends to conquer the Ahaggar; the Touring Club of France has organized excursion caravans for several years. Scientists from all fields, enlightened travelers,

163 /190 cont./ mountain climbers in quest of virgin peaks, are
361 attracted to the still little-known country. For all of them
62 Tamanrasset is a departure base but not a place to linger.

[648] Tissenaouine

In the Tissenaouine wadi at its confluence with the Tamanrasset wadi. One foggara belonging to a hartani. Very well-cultivated garden.

Tagrambaït

In the Tamanrasset wadi, 15 kilometers south of Tamanrasset. Three foggara, well-cultivated gardens. Little possibility for growth.

Amsel (altitude: 1, 180 meters)

Located in the Amsel wadi a little before its confluence with the Tamanrasset wadi, about 30 kilometers south of Tamanrasset.

The owners of the gardens are the Adjouh n'Téhélé and the Tédjéhé n'Néfis. The gardens are located upstream and downstream from the tiggert, a veritable stream of running water where abundant tahli grow. Six foggara and three tanout. There are about 60 residents. The cultivable surface totals 30 hectares; there would be possibilities for extending the center downstream. Several fruit trees.

Intnérin

In the Tamanrasset wadi seven kilometers south of Amsel. Tiggert and numerous tahli. Two foggara. Unimportant /191/ center, with no possibility for growth. Boxed-in, very hot valley.

Idikel

In the Tamanrasset wadi 15 kilometers south of Amsel. Difficult to reach by auto. Three foggara and two tanout. Large amount of cultivable land but endangered by the big floods of the Tamanrasset wadi.

Tiguenouine

In the Tamanrasset wadi seven kilometers south of Tamanrasset. A large amount of tahli at the Amelalouline tiggert. Three foggara, abundant water.

103 361 621

/191 cont./ Centers located on the In-Azaoua road

Izerzi

Fifteen kilometers south of Tamanrasset in the Izerzi wadi. A long-abandoned center revived in 1952.

Talan Téhédit

A long-abandoned center 20 kilometers south of Tamanrasset. Cultivated since 1951. Abundant water. Tiggert, tahli. Garden owners: Adjouh n'Téhélé and Tédjéhé n'Néfis. Three foggara and two tanout. Possibility for growth.

Ifok

Thirty kilometers south of Tamanrasset. Running water, tiggert, tahli. The gardens are upstream and downstream from the tiggert. Two foggara and three tanout. A frequently abandoned center.

Region of the Atakor

Ilaman (altitude: 2, 000 meters).

Highest center in the Ahaggar. Abandoned for a long time, traces of nine former foggara.

At the present time the village of Ilaman has a dozen residents. One foggara and two tanout are in operation. The Dag Rali own the gardens; their millet silos give the village a curious appearance.

Terhénanet (altitude: 1, 950 meters)

Located in the Terhénanet wadi on the edge of the Taessa massif. /192/ Like the village of Ilaman the village of Terhenanet is at the side of the road leading to the Asekrem. A small guelta is found downstream from the gardens. An unimportant center: about ten residents, two living foggara, four dead ones.

Centers of the southeastern Atakor

Tarahouaout (altitude: 1, 317 meters) -- (Fort Motylinski)

Located in the Tarahouaout wadi 80 kilometers from Tamanrasset by the automobile road. It was the administrative

103 /192 cont./ capital of the Ahaggar from 1908 to 1921. One
361 may see the old bordj overlooking the wadi, as well as old
621 houses at the foot of the cliff.

An important center, it is the fief of the Adjouh n'Téhélé tribe. Fifty-two hectares are cultivable, irrigated by ten foggara. There are numerous tanout. Fruit trees are in decline but there are still fig trees, apricot trees, and vines.

[172] Numerous pre-Islamic tombs are evidence of a very ancient occupation of this water point. Three rock-drawing sites exist on ridges downstream from the bordj.

Six kilometers downstream from the gardens, an enormous stand of tahli announces the entrance to very narrow gorges, in which one may follow over a distance of ten kilometers a veritable stream connecting a string of guelta. This is perhaps the most important permanent flow of water in the Ahaggar.

In-Dalag (altitude: 1,450 meters)

Located in the In-Dalag wadi, this very important center extends over a length of 15 kilometers. The water table is fed by waters running from the southeast of the Atakor and from the Ahéléheg djebel. The Adjouh n'Téhélé own the gardens. In dry periods this center is partly abandoned, as well as the small villages downstream: Tehi n'Oudi, Tin-Tsoumar, Tabarakaten, In-Tinsi, In-Tolouline.

There are five foggara at In-Dalag. Downstream from the cultivated centers gorges are found where great numbers of tahli grow.

/193/ Tahifet

An important center located in the wadi of the same name 50 kilometers north of Tarhaouaout. The Adjouh n'Téhélé are owners of the gardens. The cultivable surface comes to 22 hectares; there are eight foggara. Six kilometers downstream from the gardens is a tiggert surrounded by a large amount of spontaneous vegetation. The site is very picturesque.

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/193 cont./ Centers of the northern Atakor

Ideles

Very important center in the Tarouda wadi, overlooked by the Adrar Tadéraz. The village is located on the automobile road from Tamanrasset to Djanet 265 kilometers from Tamanrasset. The village consists of a *bordj* and an infirmary, as well as numerous stone houses. The residents, who number about 300, were originally from the Tidikelt. The ruins of an old *ksar* may be seen.

The gardens belong to the Kel Rela, the Dag Rali, the Kel Tazolé, and the Kel Amguid. The cultivable area amounts to about 40 hectares, irrigated by eight *foggara* and about ten *tanout*. About 300 palm trees are fairly well cared for; there are also numerous fig trees and vines.

Amenselane

Very small center six kilometers from Ideles. One *foggara*. Numerous tahli near the *tiggert*.

Tazerouk

A center which used to be very important but whose cultivable land is often carried off in pieces during big floods. Located 188 kilometers from Tamanrasset by the Ideles automobile road. The population is made up of freed Negroes who own the gardens but whose laziness has jeopardized this favored oasis. The altitude is 1, 896 meters; two wheat harvests per year are possible. The cultivable area amounts to 45 hectares, with hardly half of it sown. Enormous, untended fig trees grow, /194/ as well as very many peach trees and apricot trees. The summer climate at Tazerouk is the most pleasant in the Ahaggar.

In the wadis which end at Tazerouk, agricultural centers are established during the rainy years; these are: Sellemaï, Ihebert, Teberbert, Taouakim, Tin-Ezzar.

Tizzeit

Unimportant center, long abandoned, now cultivated, located on the camel trail from Ideles to Tazerouk. Land

103 361 621 /194 cont./ belongs to the Ibardjien, an ancient tribe on the way to extinction, redoubtable mountaineers and clever hunters of wild sheep. Alkaline spring, tanout. Vines, fig trees, and numerous palms.

Tin-Founès

Abandoned center located on the Amadror road; numerous untended palms.

Hirafok (altitude: 1, 510 meters)

Located in the Hirafok wadi, on the automobile road from Tamanrasset to Ideles. The gardens run lengthwise and are well tended. Twenty-four hectares of cultivable land irrigated by five foggara and five tanout. A few fig trees. A bordj is constructed by the side of the road. The wadi valley is fairly well wooded; there is a tiggert downstream.

In-Amguel (altitude: 1, 037 meters)

Large agricultural center located in the In-Amguel wadi on the road from Tamanrasset to In-Salah, 144 kilometers from Tamanrasset. A bordj and an infirmary. Four hundred residents. Ten foggara water well-tended gardens. There are some 100 palm trees, half of which are dokkar. Vines, fig trees, apricot trees, peach trees. Poultry.

Ifrok

Upstream from In-Amguel on the automobile road from Ideles. A center long abandoned, now cultivated. One foggara. The wadi is very well wooded.

Tasakimt

An abandoned center located between Idelès and Tazerouk. One tiggert upstream from which existed a foggara and four /195/ tanout. Abundant vegetation consisting of fersig and oleander.

Centers of the Tefedest

Mertoutek

A center in decline. There now exist two living foggara compared to ten before. Altitude: 1, 450 meters. Located in

103 361 621 /195 cont./ the Mertoutek wadi, to the east of the Tefedest, 260 kilometers from Tamanrasset. A few fruit trees. Important rock-drawing sites (Coche-Chasseloup-Laubat, Lelubre and M. Cousin sites).

In-Amertek

Abandoned center downstream from Mertoutek.

Ohet

Abandoned center to the northwest of the Tefedest. Two dead foggara. Land belonging to the Tédjéhé Mellet.

Adenek

Abandoned center in the Adenek wadi at the confluence of the Dehine wadi. Land belonging to the Kel Tefedest. There still remain a few fig trees and vines.

Abezzou

Abandoned center, land belonging to the Kel In-Rhar and Eouen n'Hada. Only a few zéribas and traces of guemoun are evidence of former cultivation.

Dehine

Center located six kilometers north of Mertoutek. Abandoned. There remain a few palms and fig trees as reminders of a former prosperity.

Other agricultural centers

Silet (altitude: 775 meters)

Located 151 kilometers from Tamanrasset on the road to Tin-Zaouaten. The Silet wadi forms a large basin which receives the waters of the Tahelra. There is a very shallow water table, which makes it possible for palms to grow without irrigation. There are about 6, 000 palms which receive practically /196/ no care. Artificial fecundation is rarely practiced. This palm grove was created about 200 years ago by Arabs from the Tidikelt. The owners of the palms are some Kel Rela, Iklan Taoussit, and Dag Rali. An attempt to establish a palm grove has been made by the Annex with djebars of Téguezza.

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/196 cont./ Some ten residents live at Silet and cultivate small gardens irrigated by three foggara. A bordj. Ruins of an old Arab fort. Numerous pre-Islamic tombs.

Tibeghim

Five kilometers from Silet. Small palm grove in a semi-wild state, which gives it a very picturesque appearance. The palms belong to the Kel Rela and the Iklan Taoussit.

Aïtoklane

Center located in the Sersouf wadi 40 kilometers south of Tazerouk. Long abandoned, now cultivated. Far from the automobile roads, this center is rarely visited. The cultivable area is great.

Tin-Tarabin

In the Tin-Tarabin wadi, away from the automobile roads, this center is rarely visited. Abandoned, then revived a short time ago. This center could prosper, for the cultivable area is large.

Tadjmout

Located on the road from Tamanrasset to In-Salah in the intra-tassili depression of the Mouydir tassili. A few gardens belonging to the Kel Immidir. Palm trees (about 100 grow freely in the gorge one kilometer from the road).

Izghan -- Izeghaf -- Djoraf

Abaondoned centers in the interior of the tassili massif. Numerous palms belonging to the Kel Immidir and the Kel Ahnet. These sites are never visited and remain unknown to all.

Tin-Teredjine

Upstream in the Teredjine wadi (In-Guezzam road). Tiggert, abundant water, abandoned garden. Tomatoes /197/ grow without being cared for. An Adjouh n'Téhélé family gathers them from time to time.

Inroudiden

In the Tahelra massif (south of Tiffert), in the Inozzorou wadi, a tributary of the Tinef. Owners: Iklan Taoussit. Unimportant.

Isernan and Sédéouen

During rainy years, gardens are established upstream from the tiggert in these two wadis, tributaries of the In-Dalag wadi.

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuâreg MS25
Hoggar

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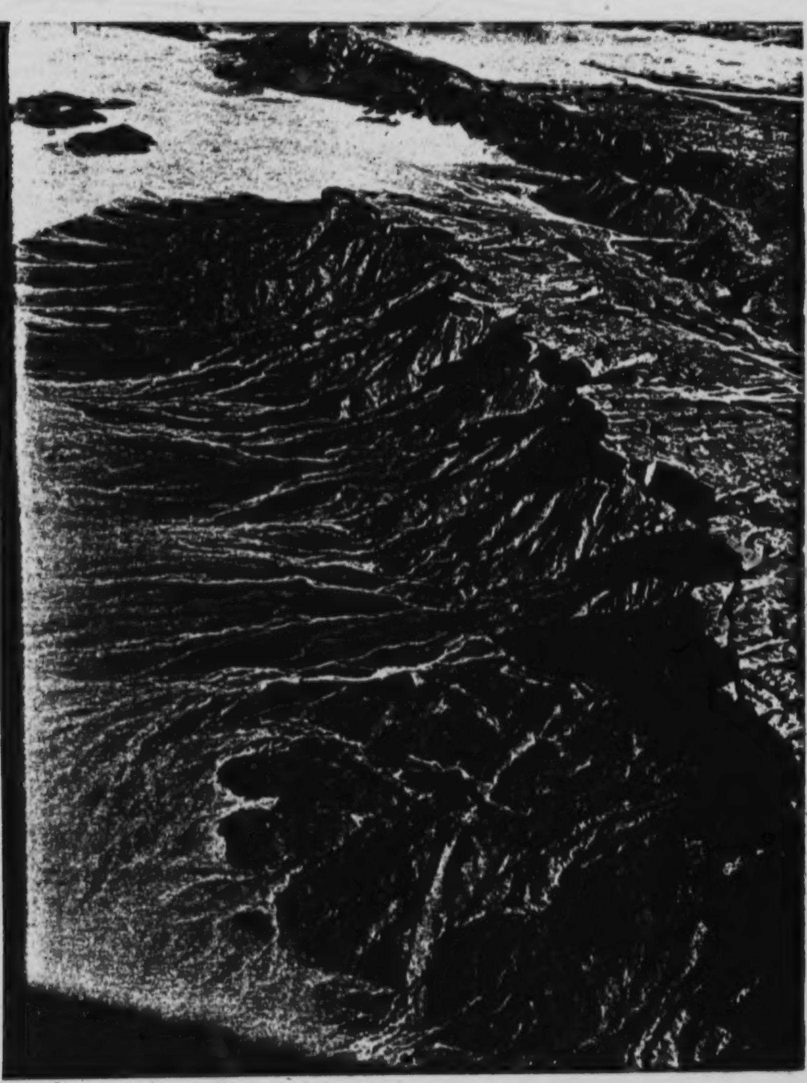
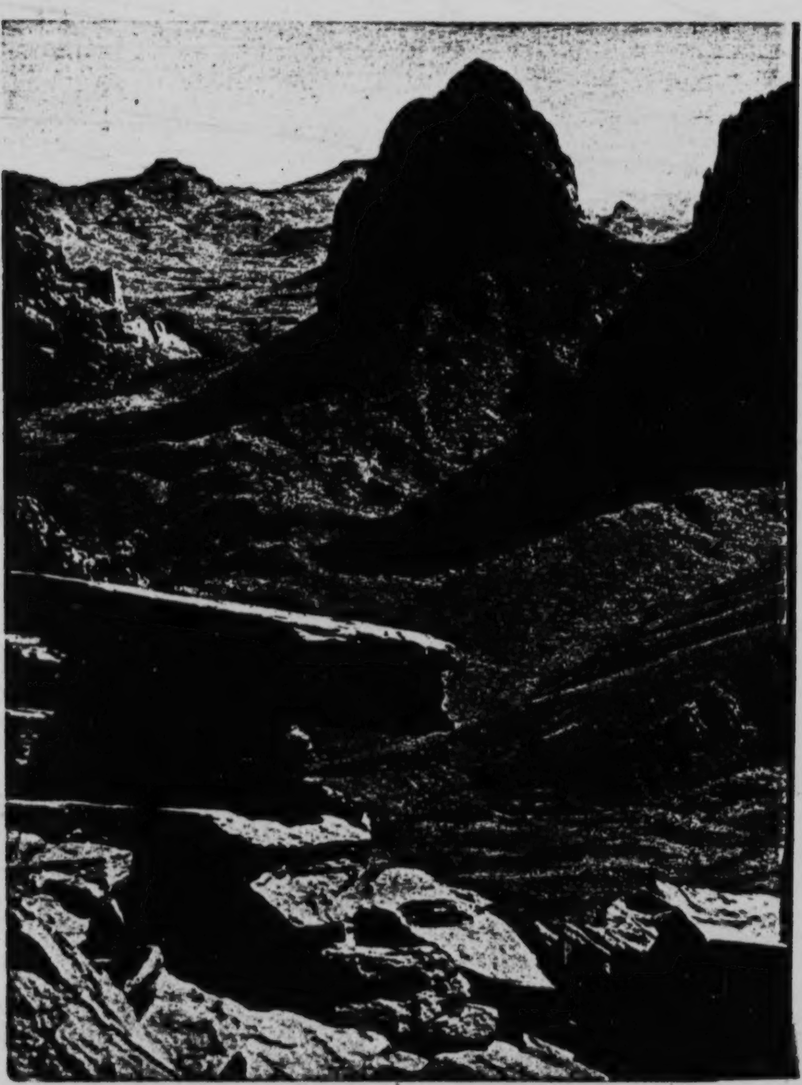


1. Aerial view of the Adriane massif.

[p. 183]



2a. In the Atakor, heart of the Ahaggar, the Fidjemayène massif seen from the Séouénane summit.

[p. 184] [left] [see p. 185]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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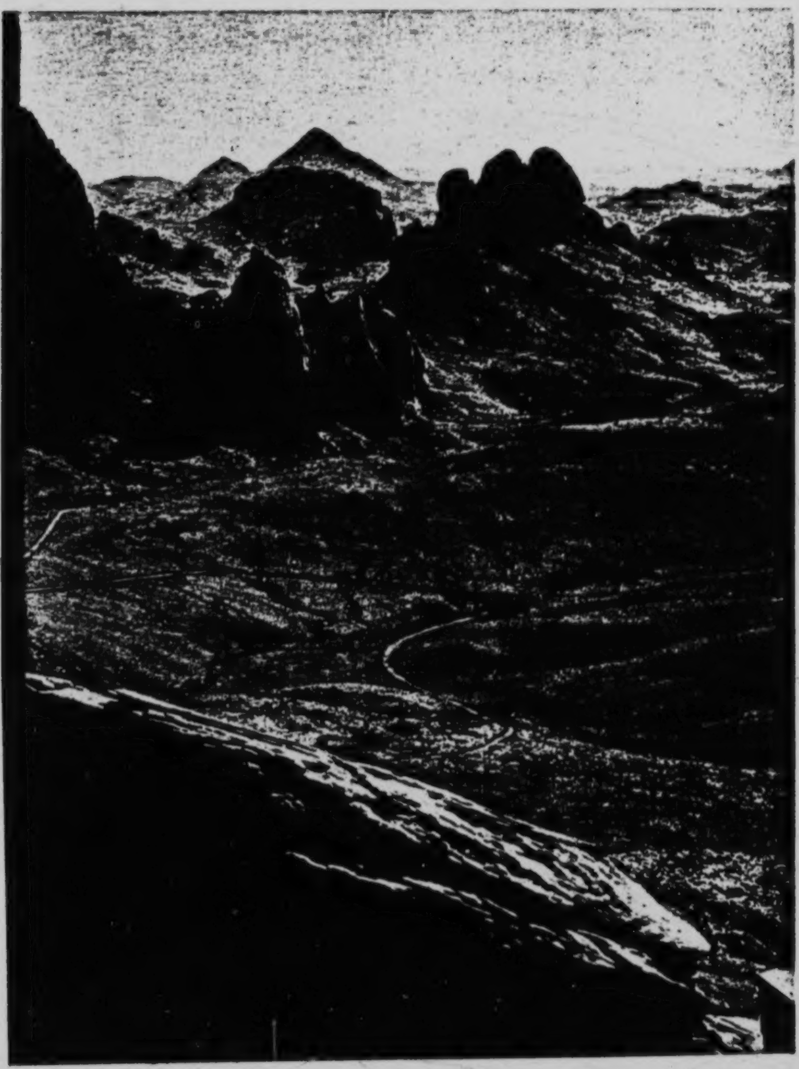

2b.

[p.185] [Right - see p.184]

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3a. Position of the Tuareg meharist.

[p. 186] [left - see p.187]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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3b.

[p. 187] [Right-see p. 186]

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4a. Tassili landscape.

[p. 188] [left - see p. 189]

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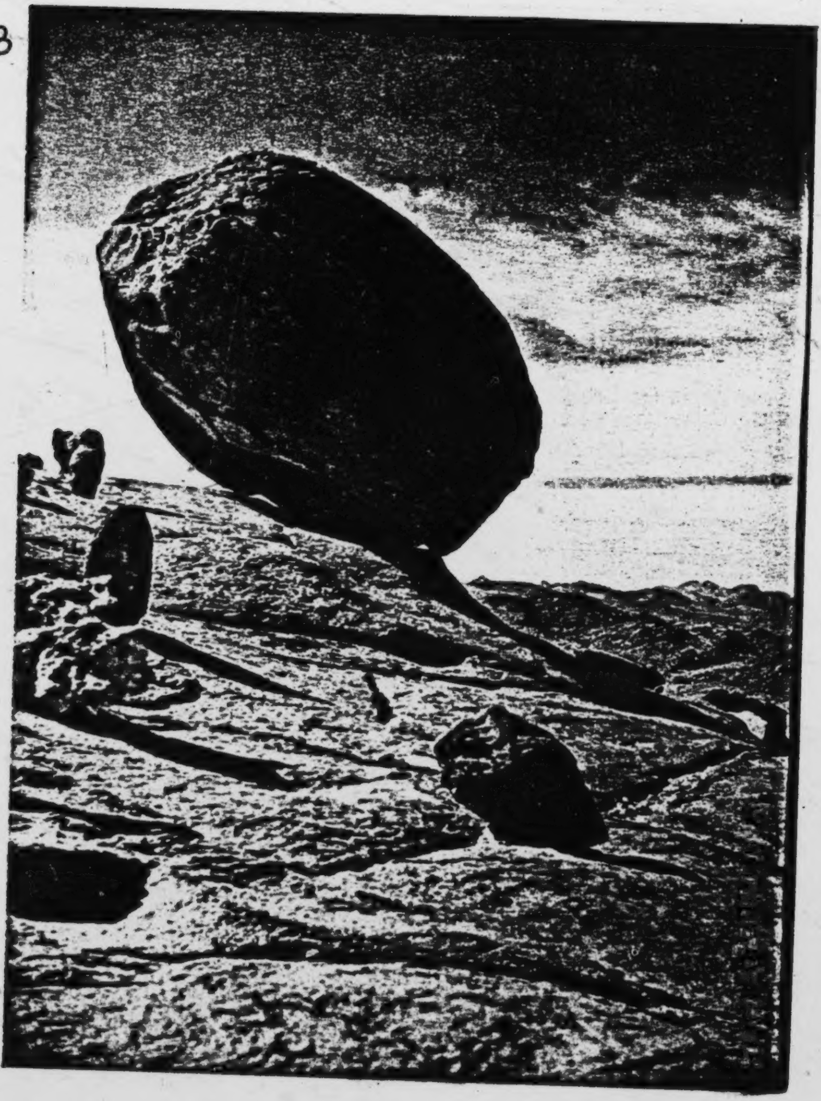
4b. [p. 189] [Right - see p. 188]



5. Phenomenon of granitic erosion (in the Mertoutek wadi).

[p.190]

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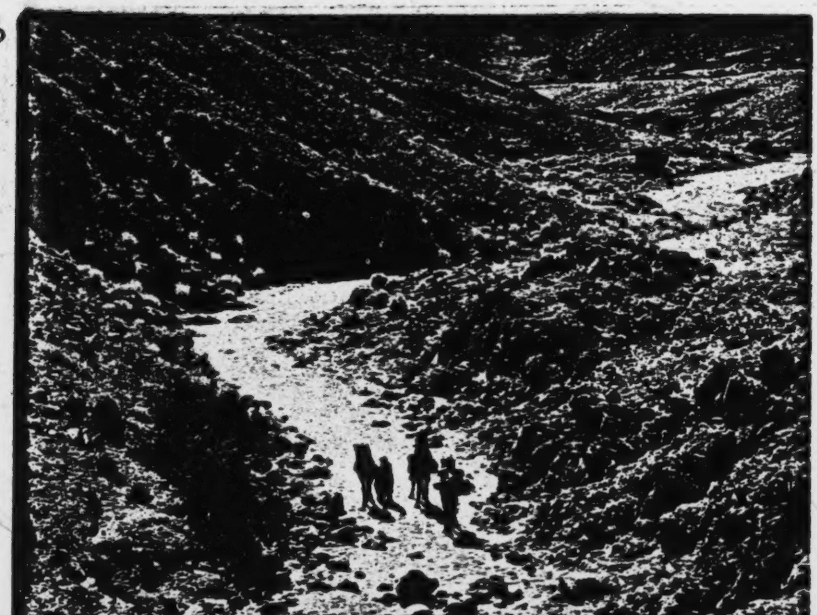

6. In a wadi of the Atakor during a dry period.

[p. 191]

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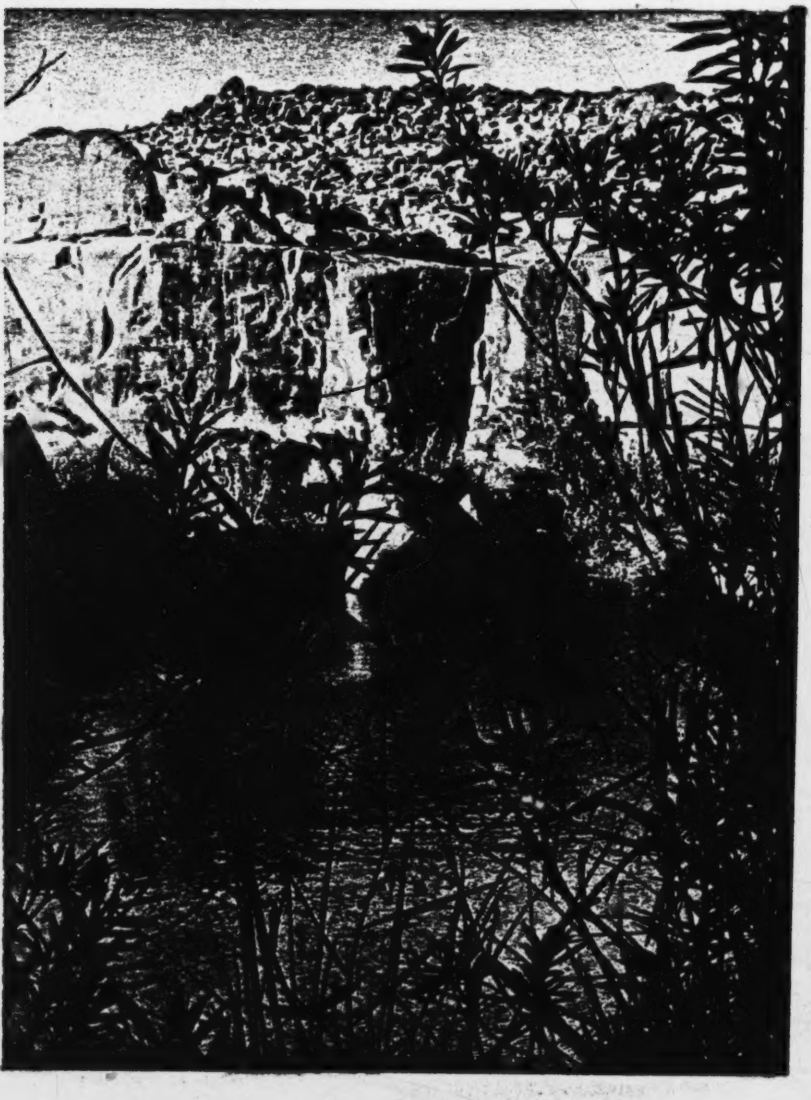

7. Oleanders bordering the Issakarassène guelta.

[p. 192]

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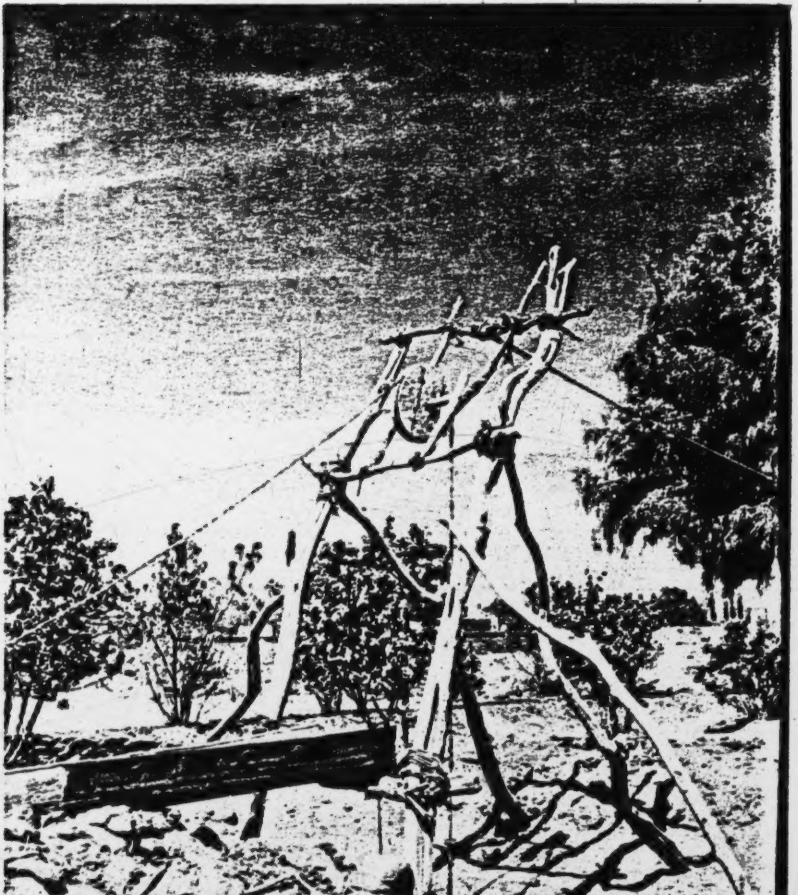
8. An abankor.

[p. 193]



9. A tanout.

[p. 194]

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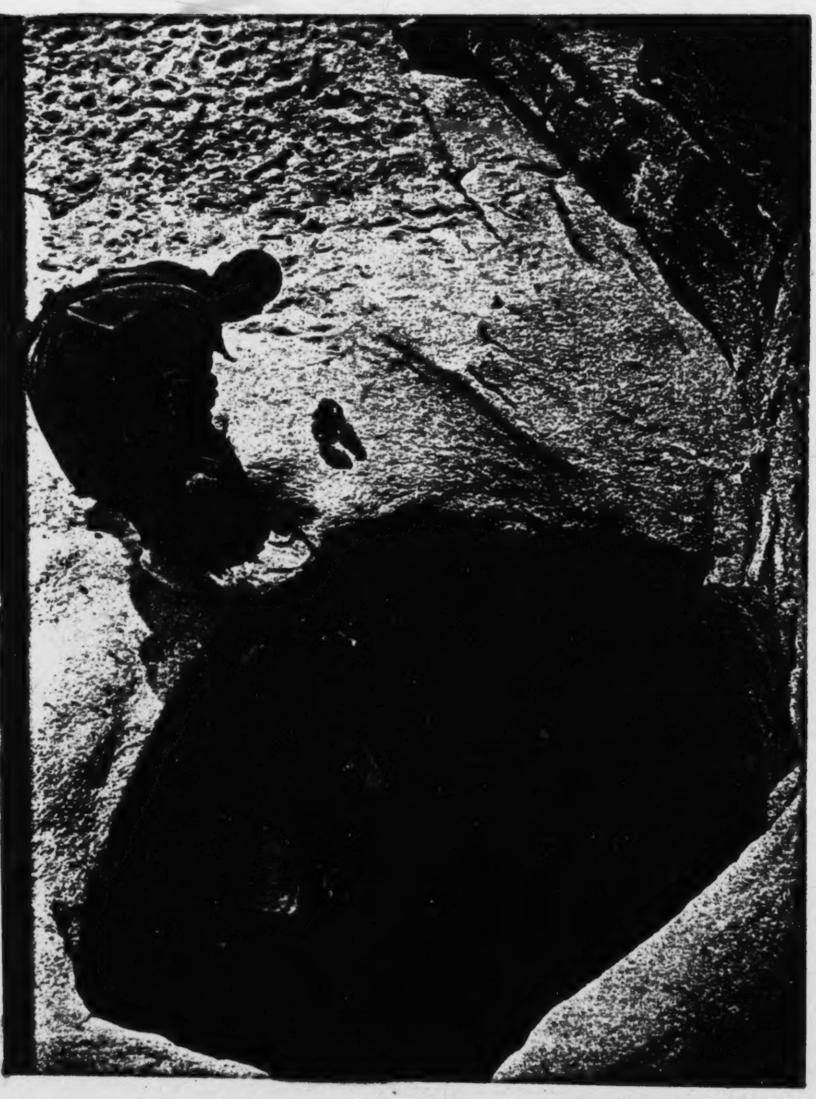

10. Pothole.

[p.195]

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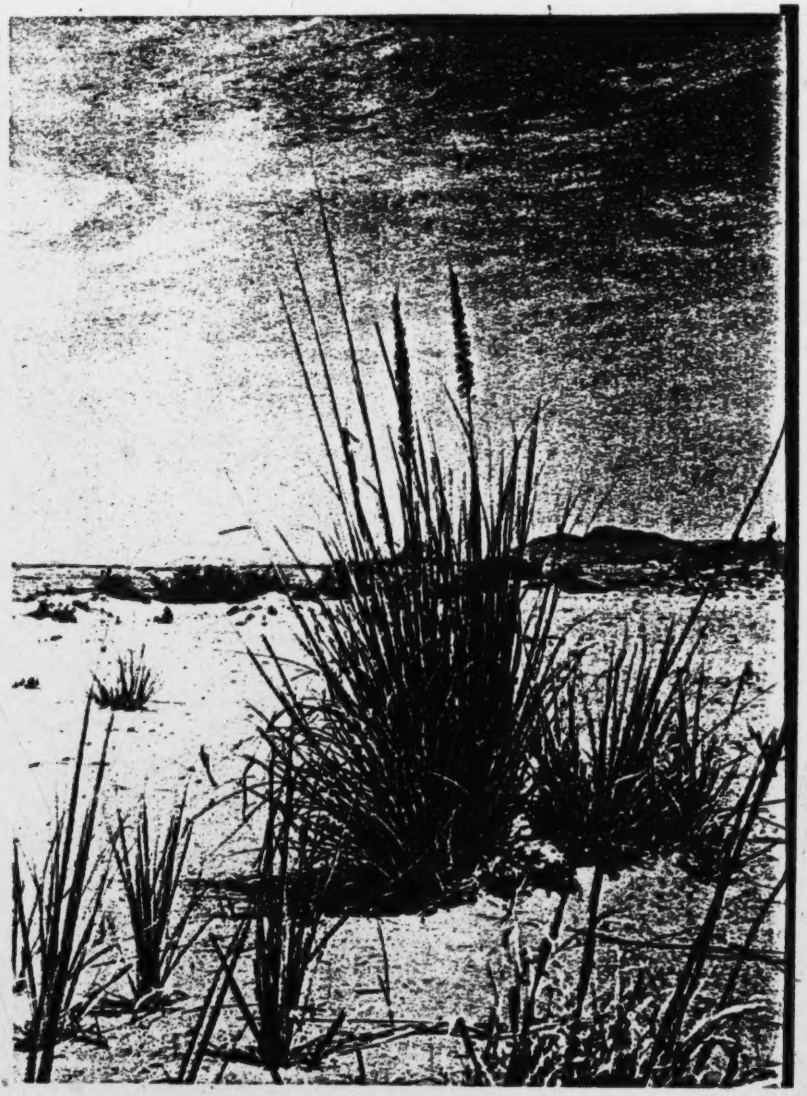

11. A tesendgelt (Eragrostis bipinnata).

[p.196]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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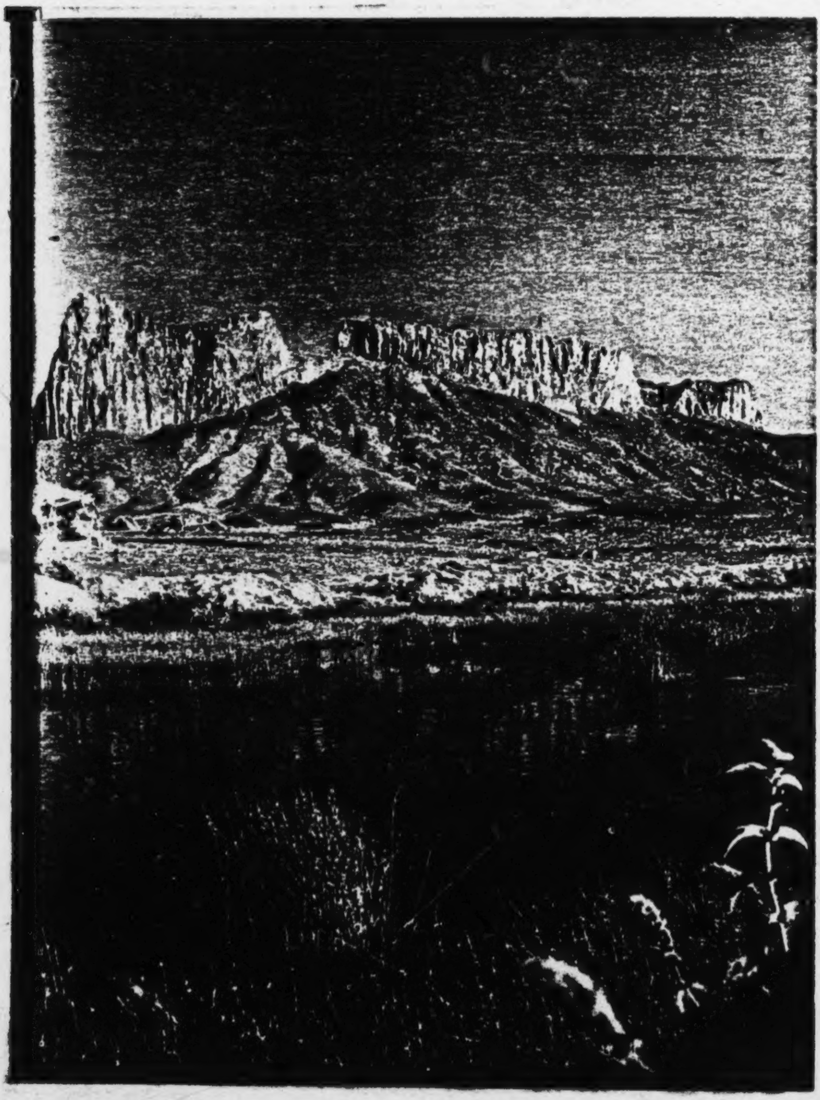

12. Tamanrasset. The Adriane agricultural center.

[p. 197]

13. A thora (Callotropis proscera) in the Tamanrasset wadi.

[p. 198]

14. Dead tabrakat in the Amded wadi.

[p.199]

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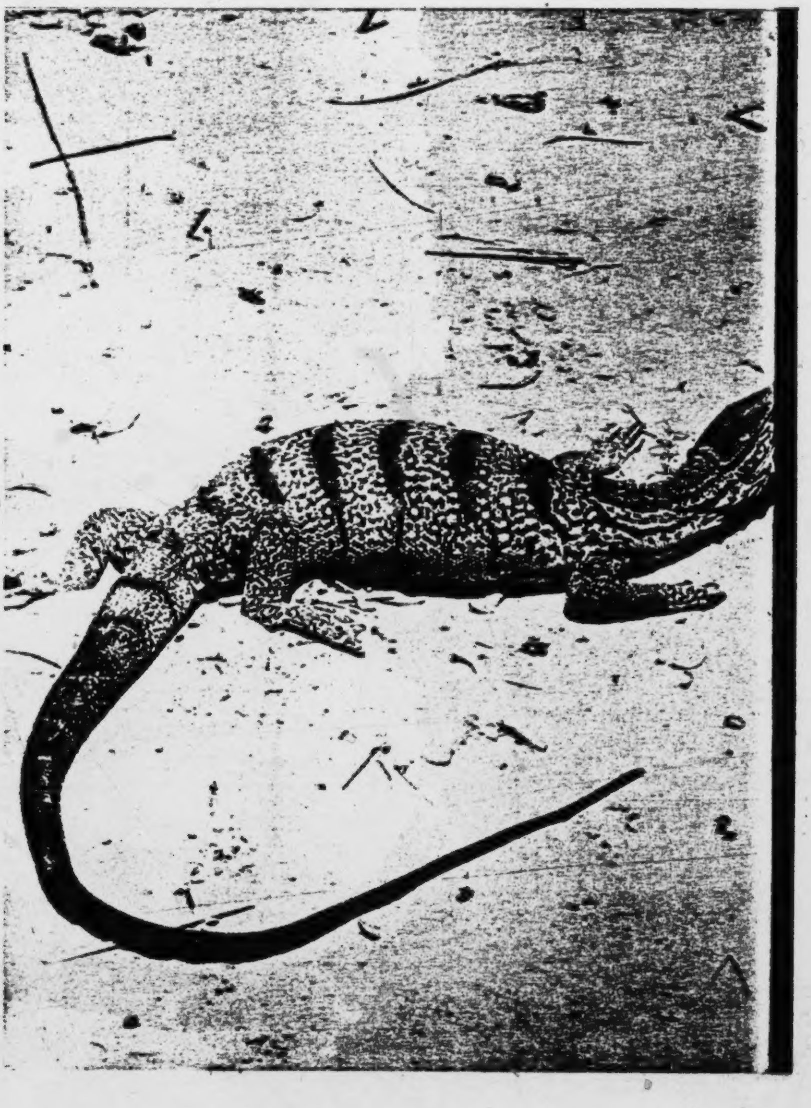

15. A uran.

[p. 200]

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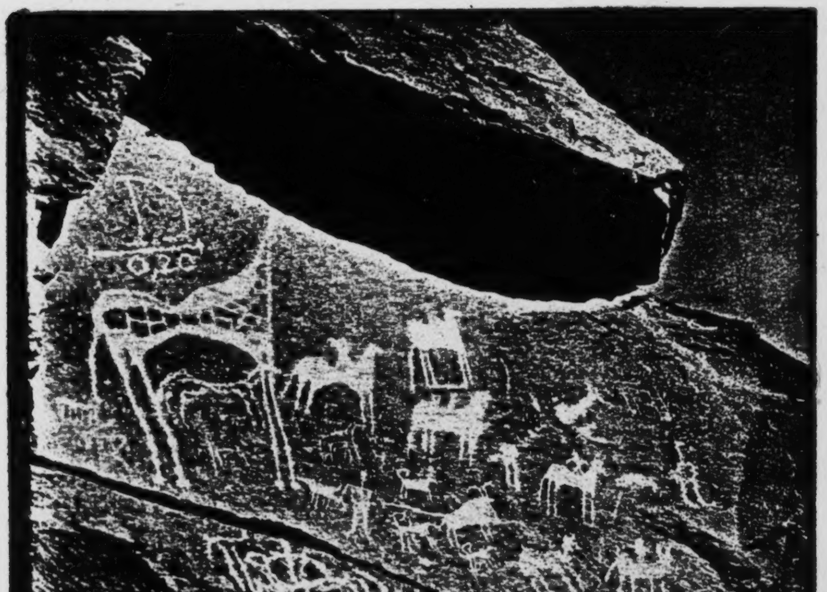

16. Rock painting near the Hirafok oasis.

[p.20]

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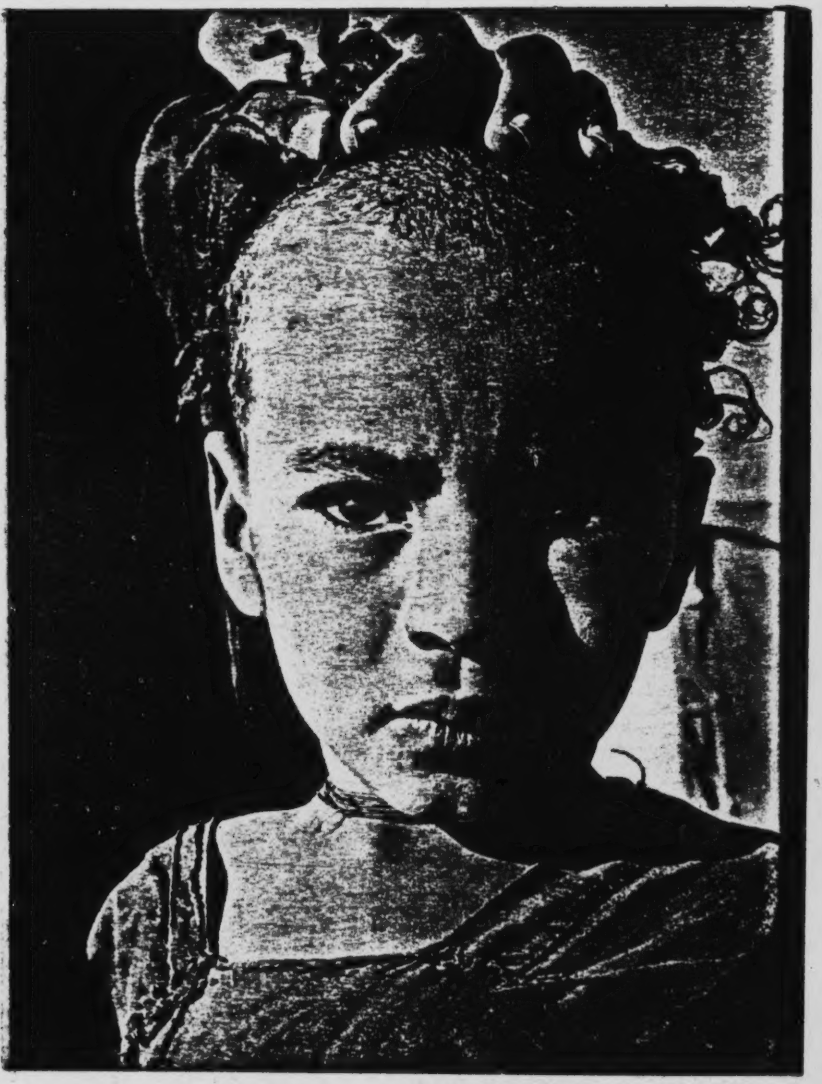

17. Beyh ag Sidi Moussa, nephew of the present amenokal.

[p. 202]

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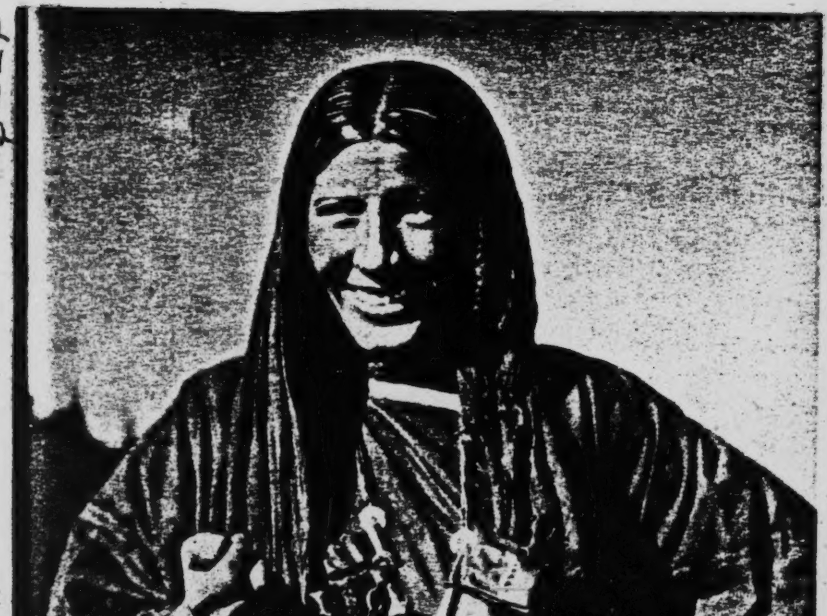

18. Rhama, woman of the Iklan Taoussit tribe.

[p. 203]

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19a. Tuareg of the Taïtok tribe talking things over in their favorite position.

[p. 204] [left - see p. 205]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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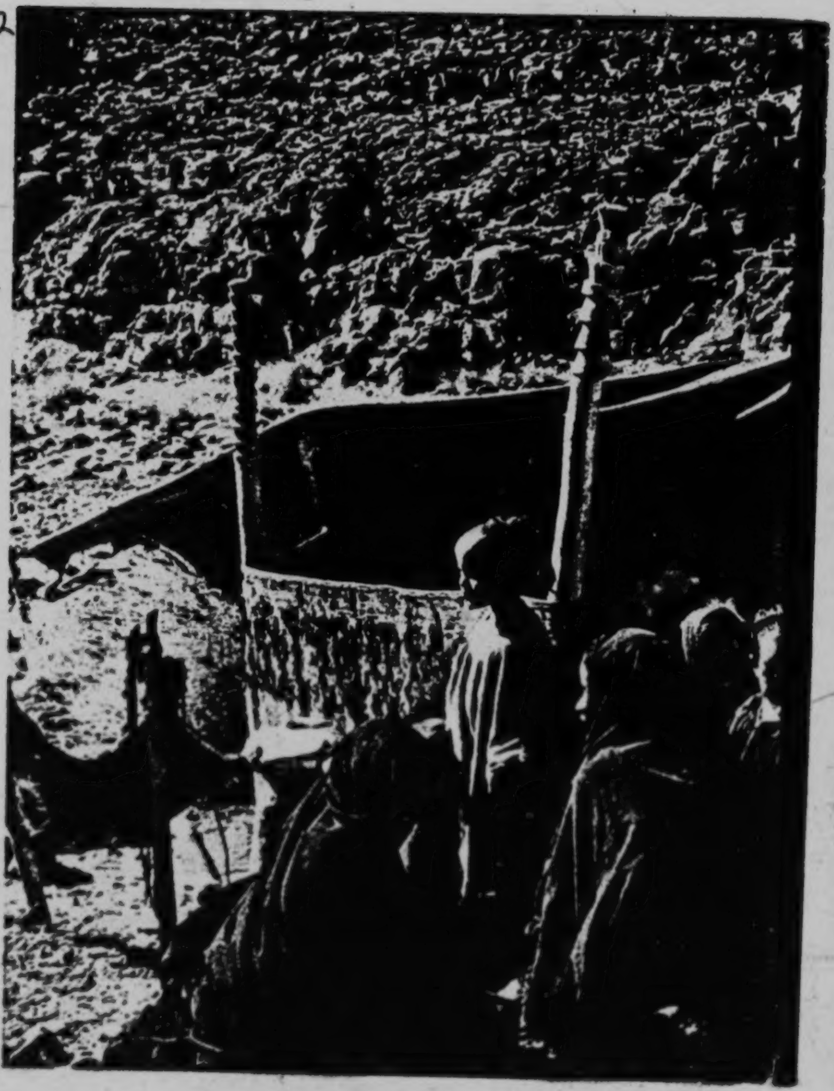
19b.

[p.205] [Right-see p.204]



20a. Tuareg camp. [left - see p. 207]

[p. 206]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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20b.

[p. 207] [Right - see p.206]

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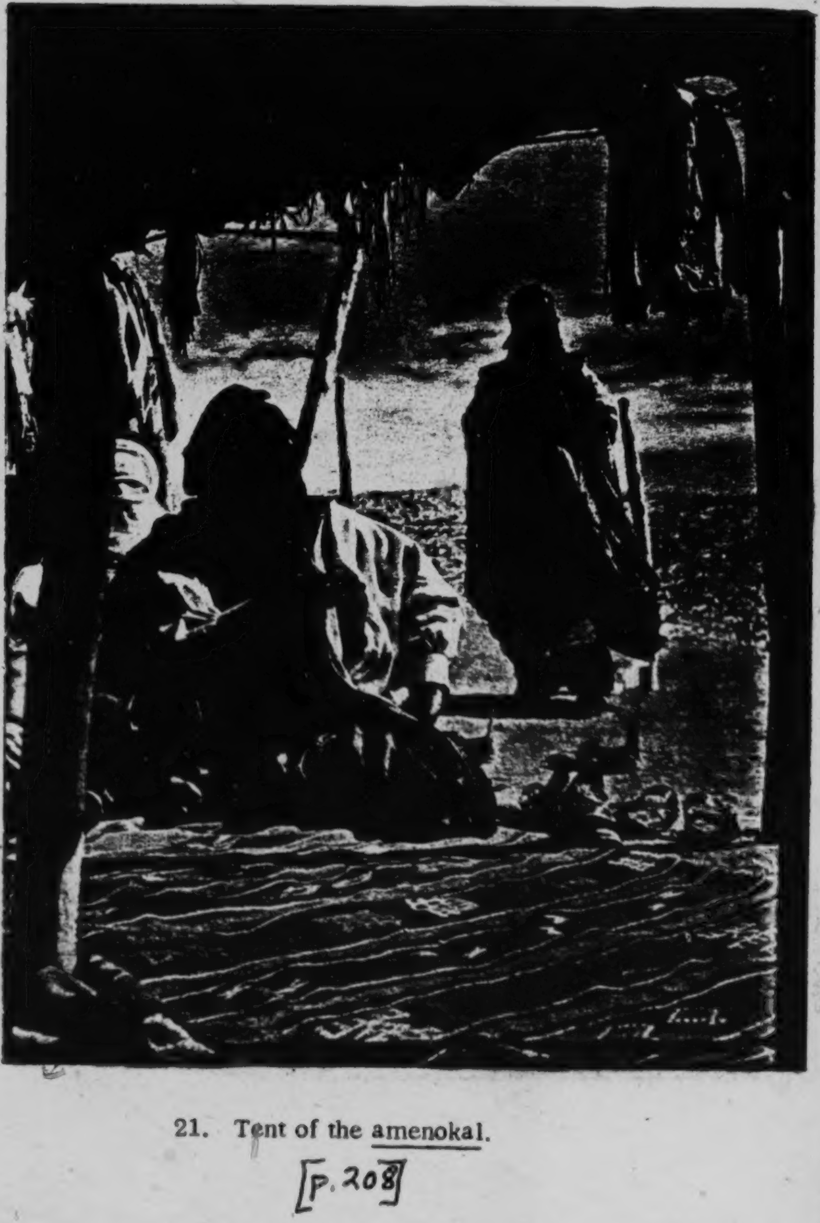

21. Tent of the amenokal.

[p. 208]

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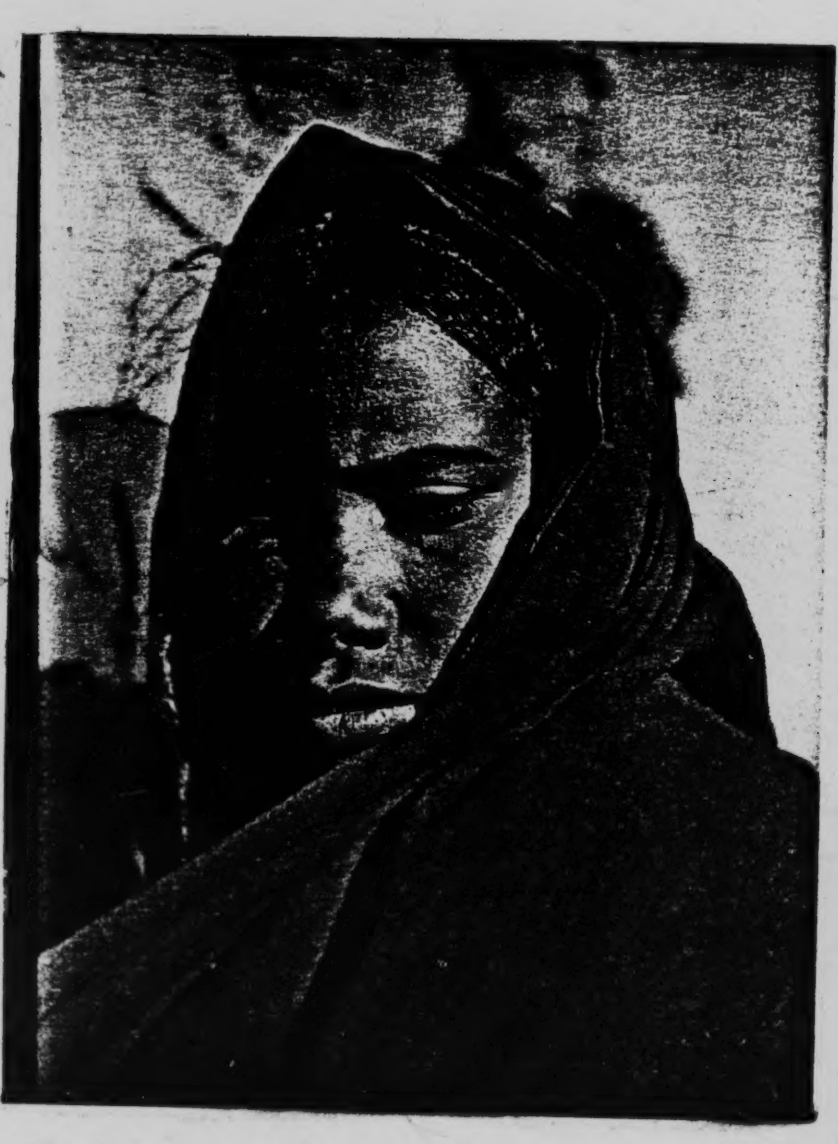
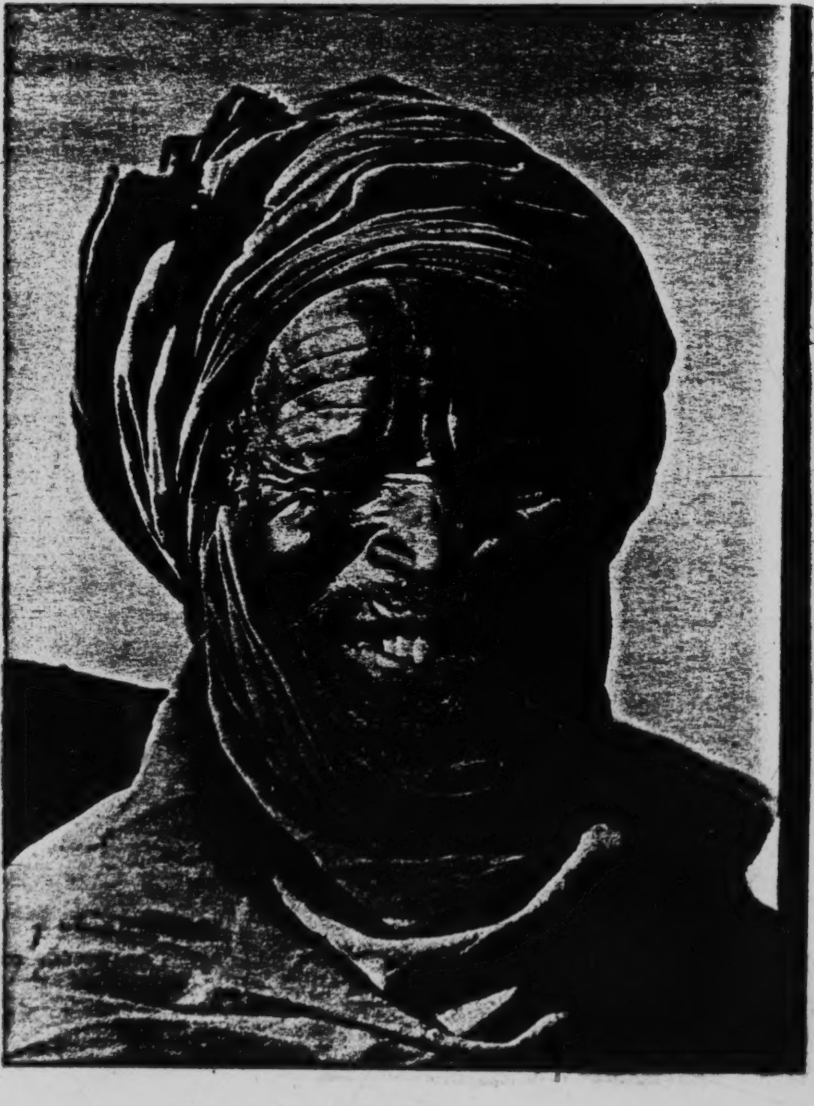


22. Young harratin of Ideles.

[p.209]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

142
291



23. A hartani type.

[p. 210]

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24. Apricot trees and poplars at Tamanrasset.

[p. 211]

25. Fig trees and tamarisk.

[p. 212]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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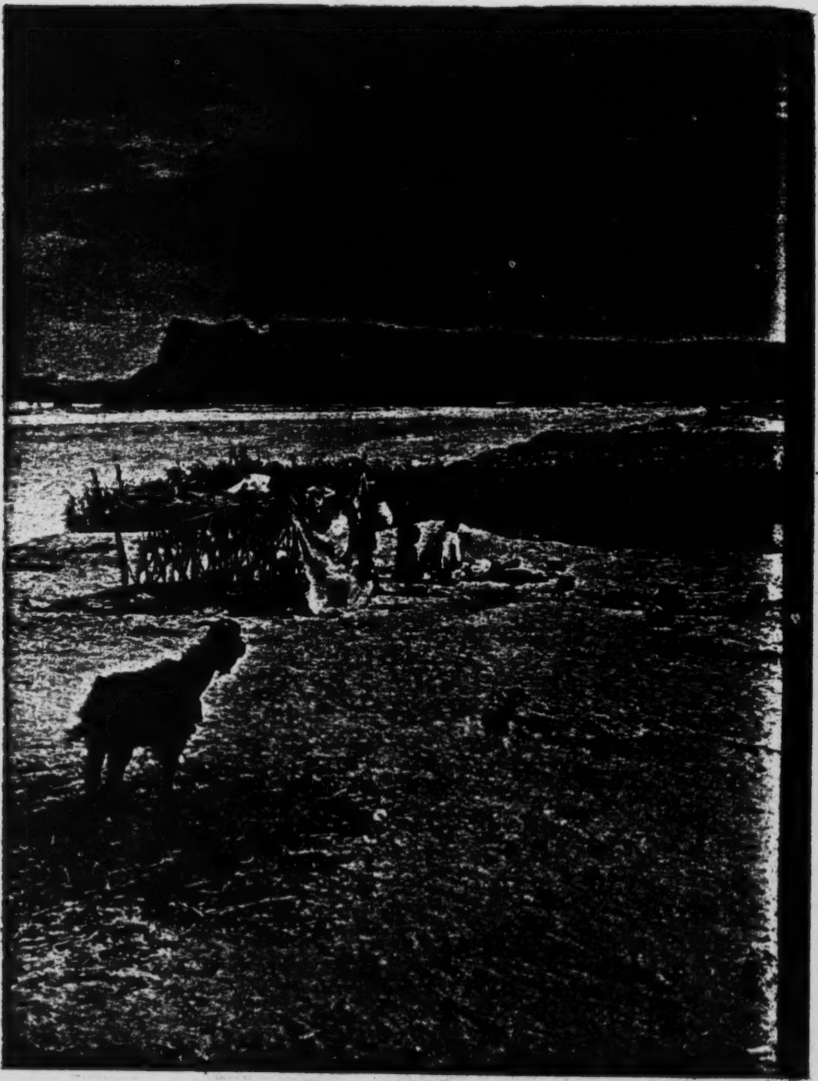
26. The wheat harvest at Tamanrasset.

[p.213]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

231
343

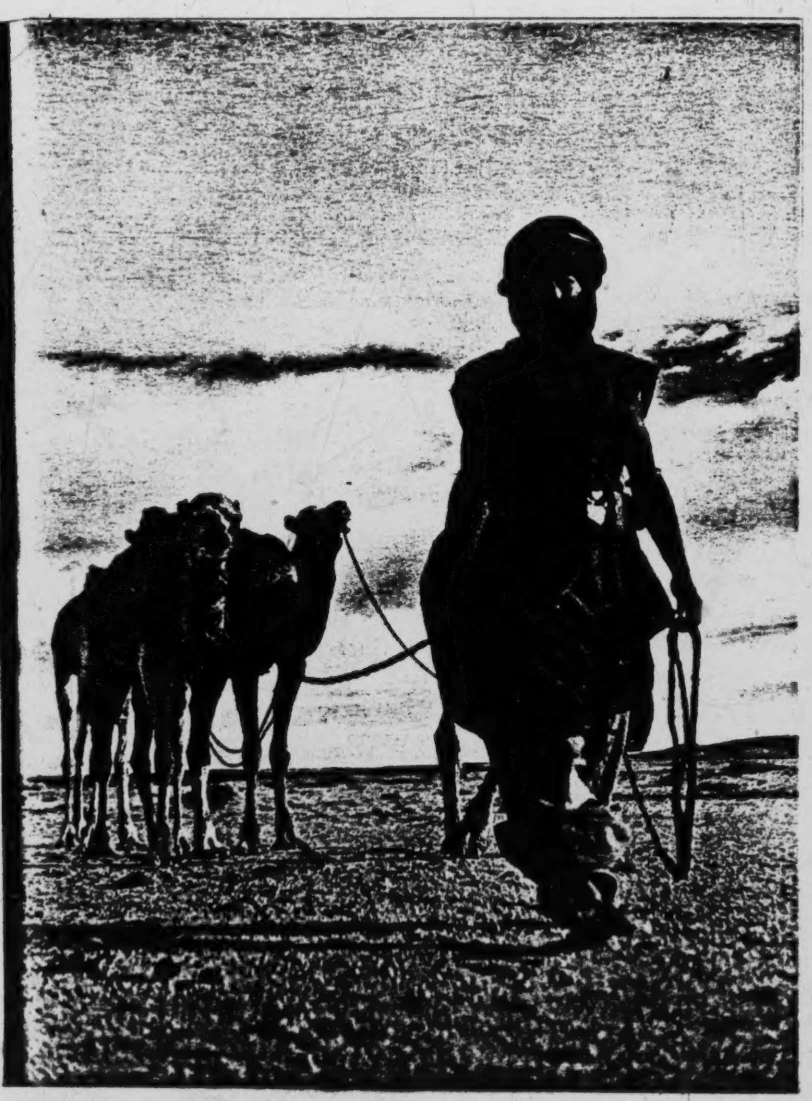


27. A jeriba near a wheat field.

[p. 214]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

233
291



28. In the pastureland rounding up the animals.

[p. 215]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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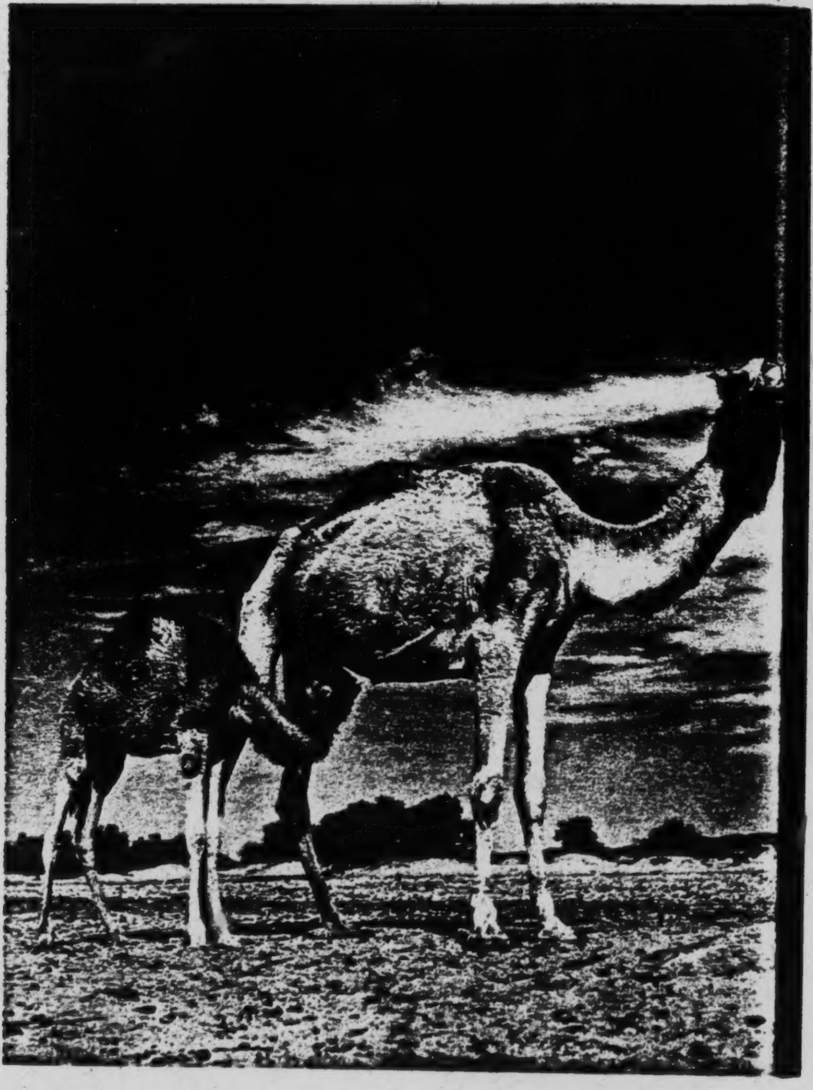

29. In the pastureland in the Amded wadi.

[p. 216]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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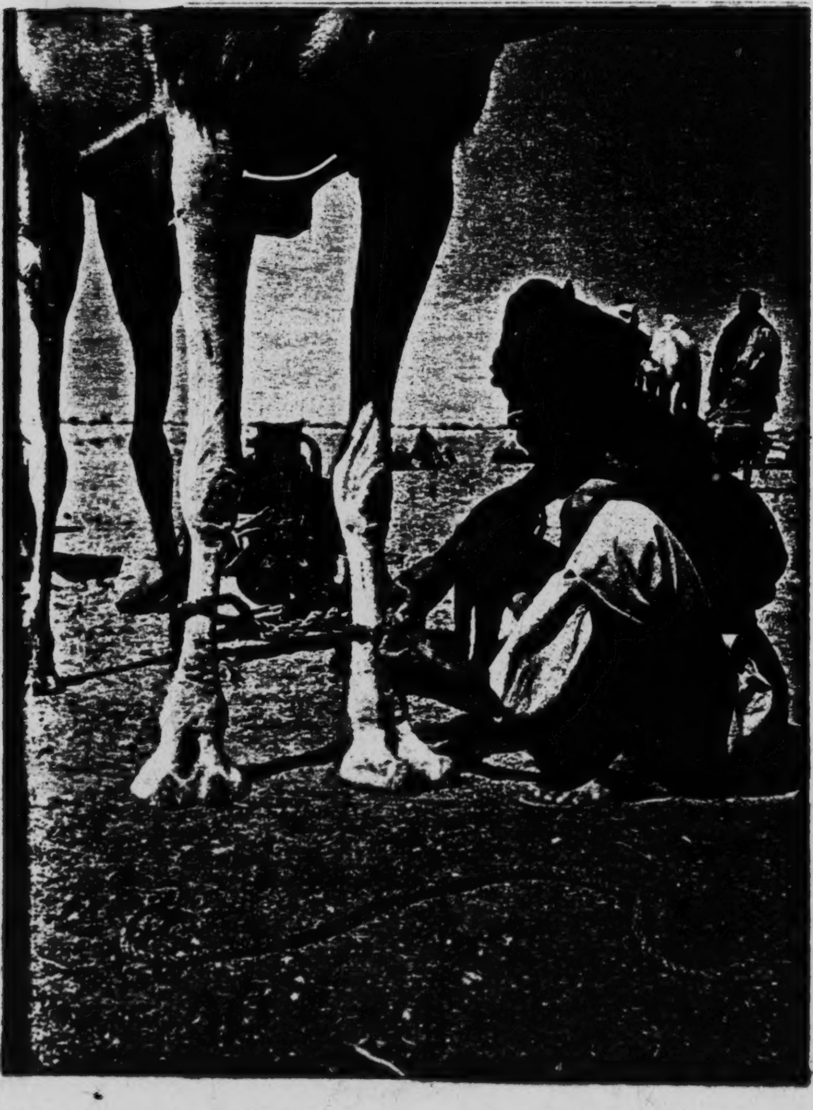
284
516



30. On a stopover the animals are hobbled for the night.

[p. 217]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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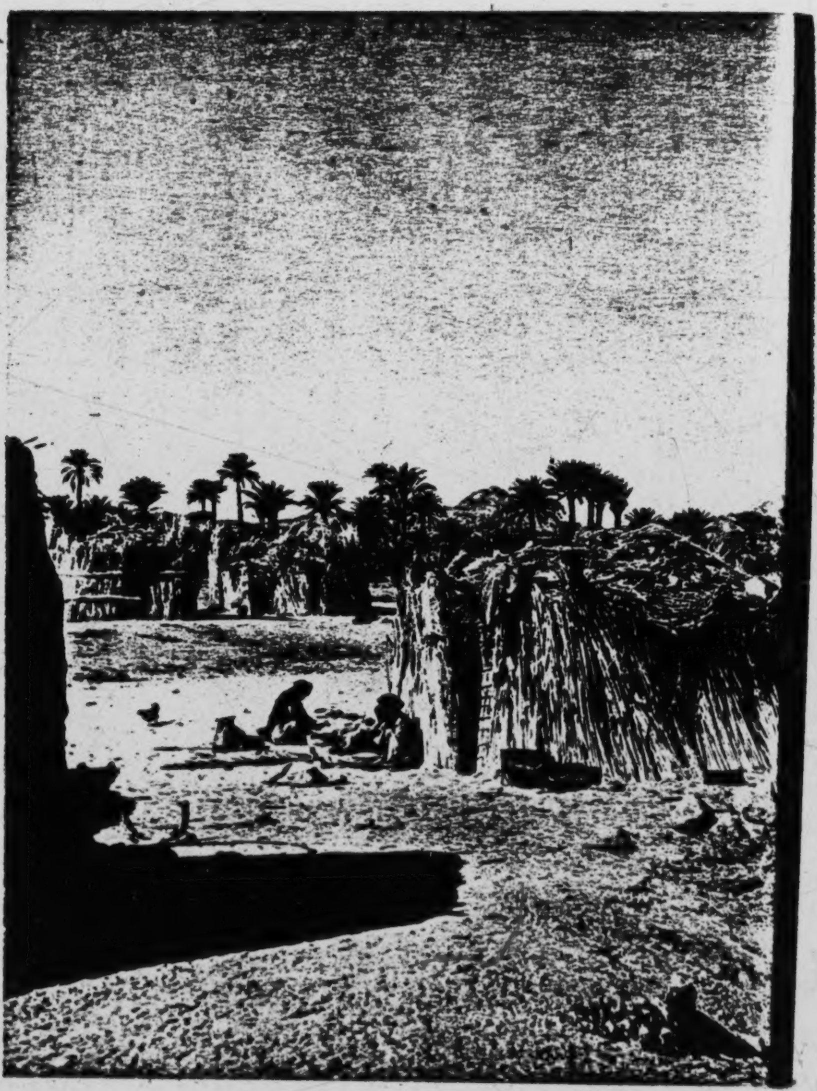
361



31. Zériba in the Ideles oasis.

[p. 218]

6: Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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32. Tuareg tent.

[p. 219]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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33a. Tuareg camp at Tessiben.

[p.220]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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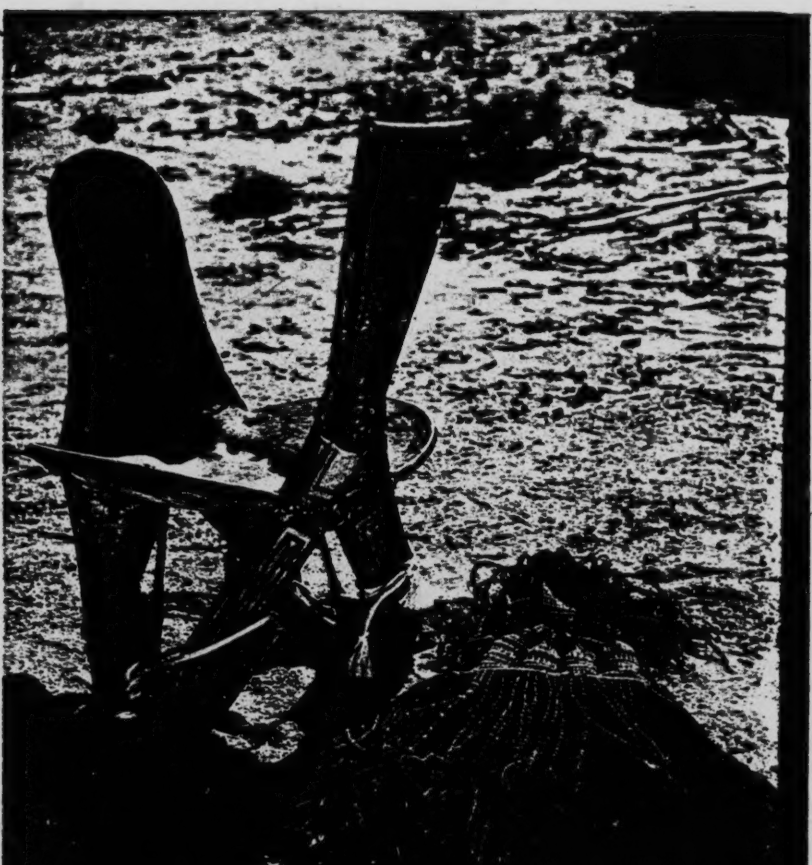
33b.

[p.221]

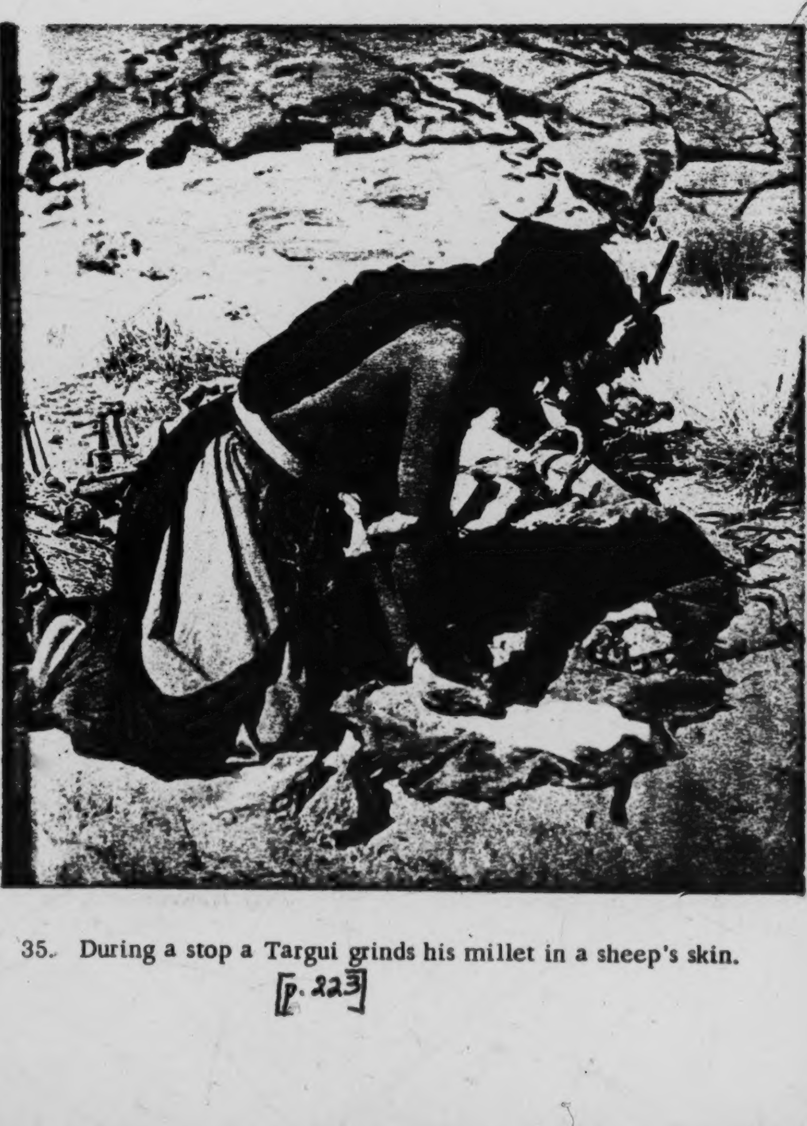


34. Type of saddle (taiast) with its girth (aḷf).

[p. 222]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

252
516
991

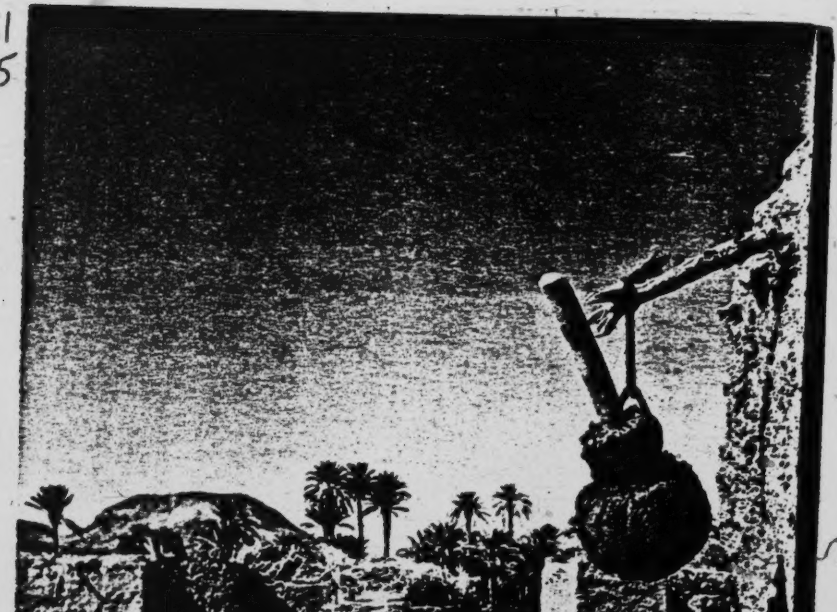


35. During a stop a Targui grinds his millet in a sheep's skin.

[p. 223]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

361
415



36. At the Ideles oasis. At right a butter container (tahtint).

[p.224]

.415

37. Delou used to keep water fresh.

[p. 225]

6:Blanguernon Y-5 (1937-1954) 1955 MA25 Tuareg MS25 Hoggar

563
854
291
142

38. Young Targui and his black servant at Ideles.

[p. 226]

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39. Filling a guerba using a wooden funnel.

[p. 227]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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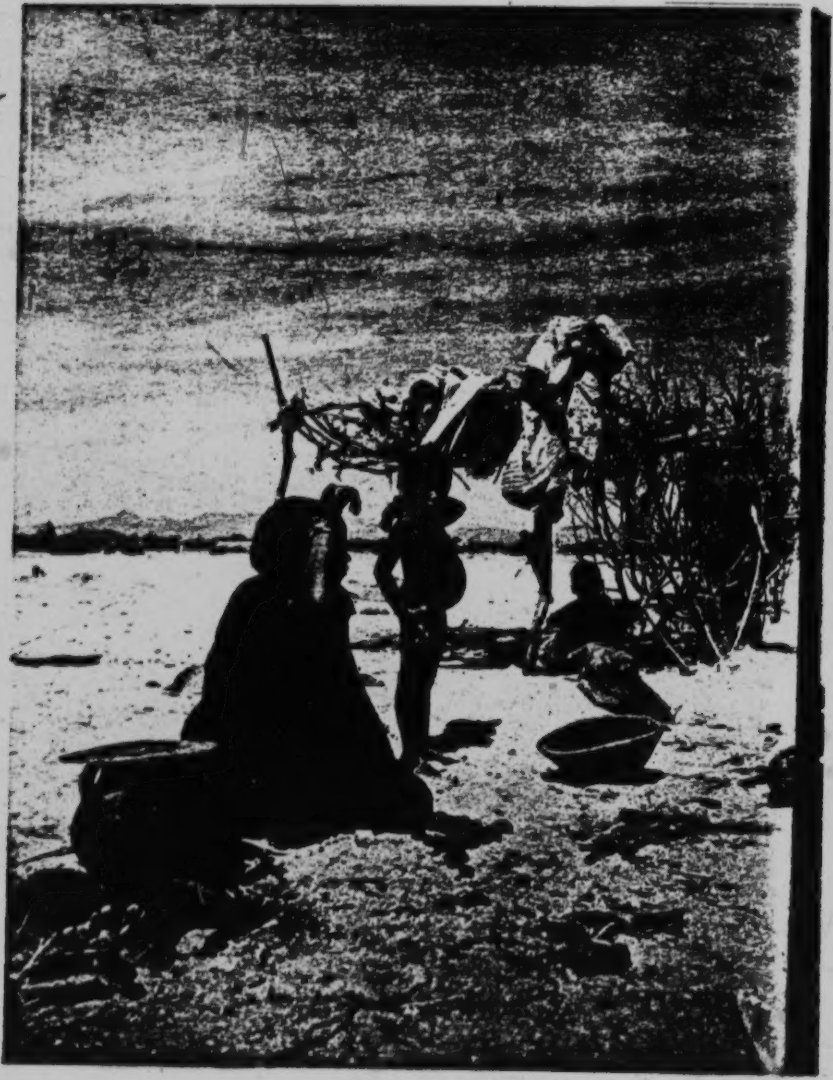
516
415



40. Harratin family at Tahaggart.

[P.228]

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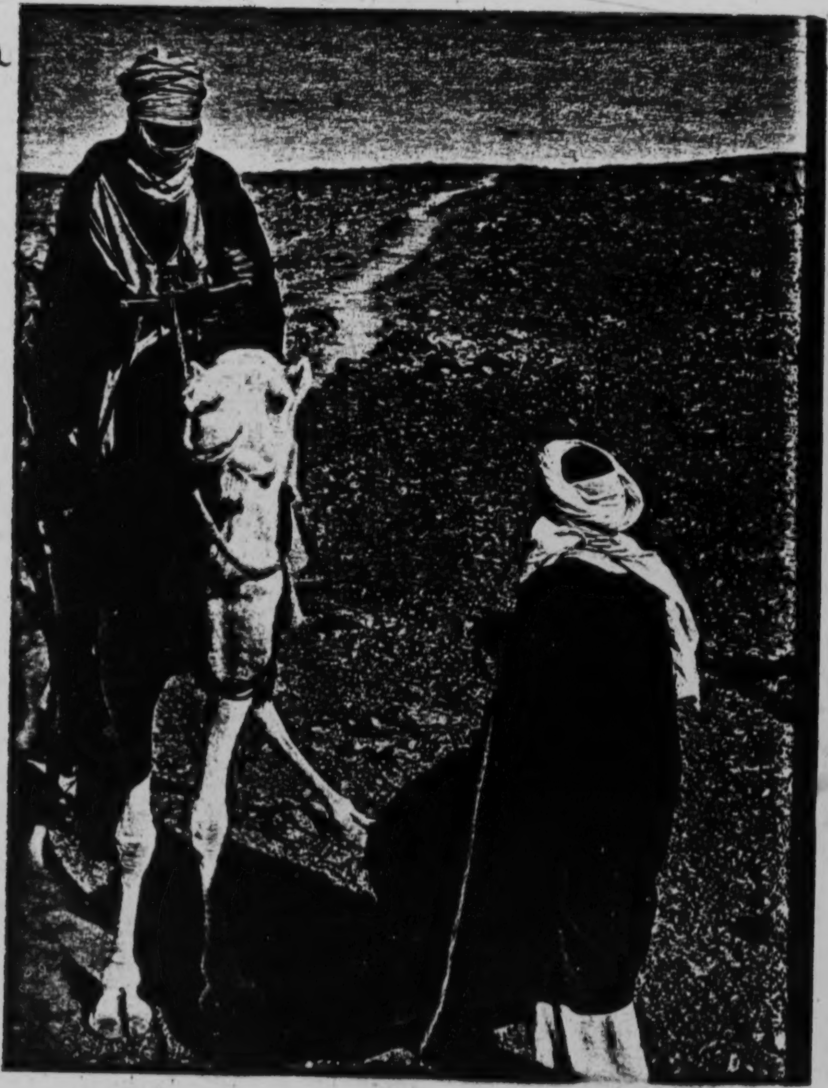
41. Gathering wood at Tizzolaïne.

[p. 229]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

291
492



42. Camel trail. Boubaker gives the Issalen (the news).

[p. 230]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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43. A stop.

[p. 231]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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857

44. An infant Targui plays among the Dag Rali.

[p. 232]

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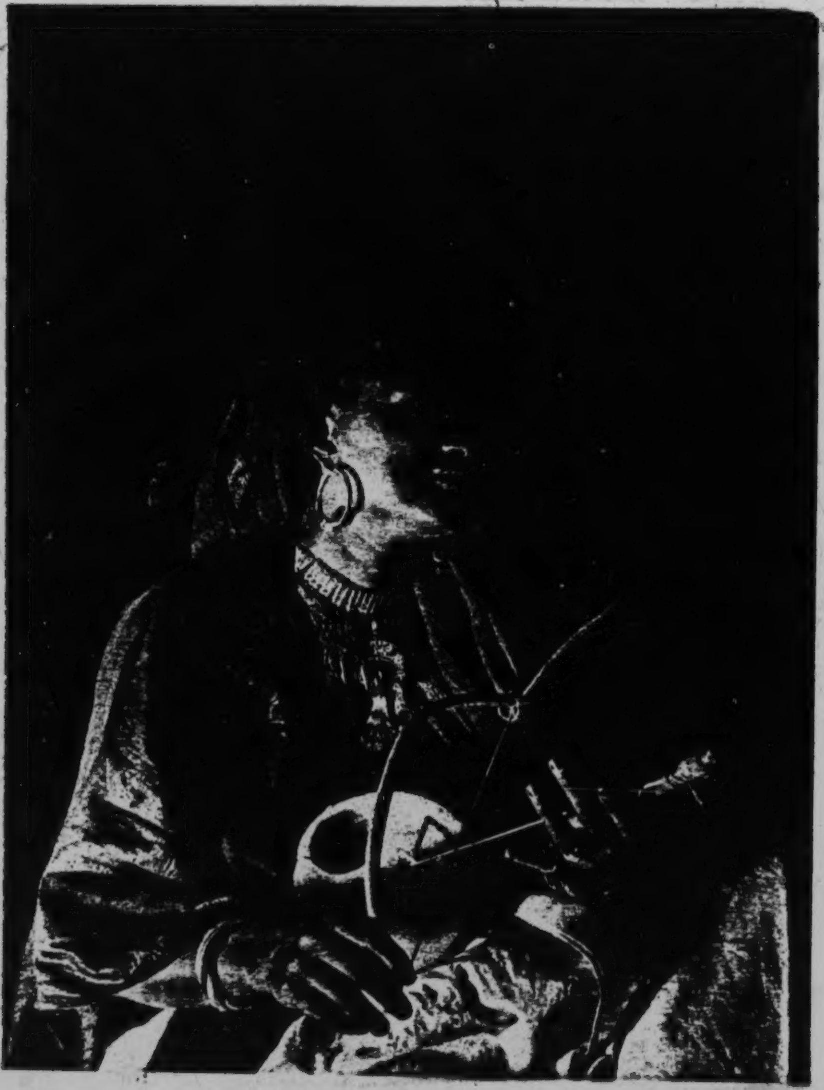
45. The public scribe.

[p. 233]

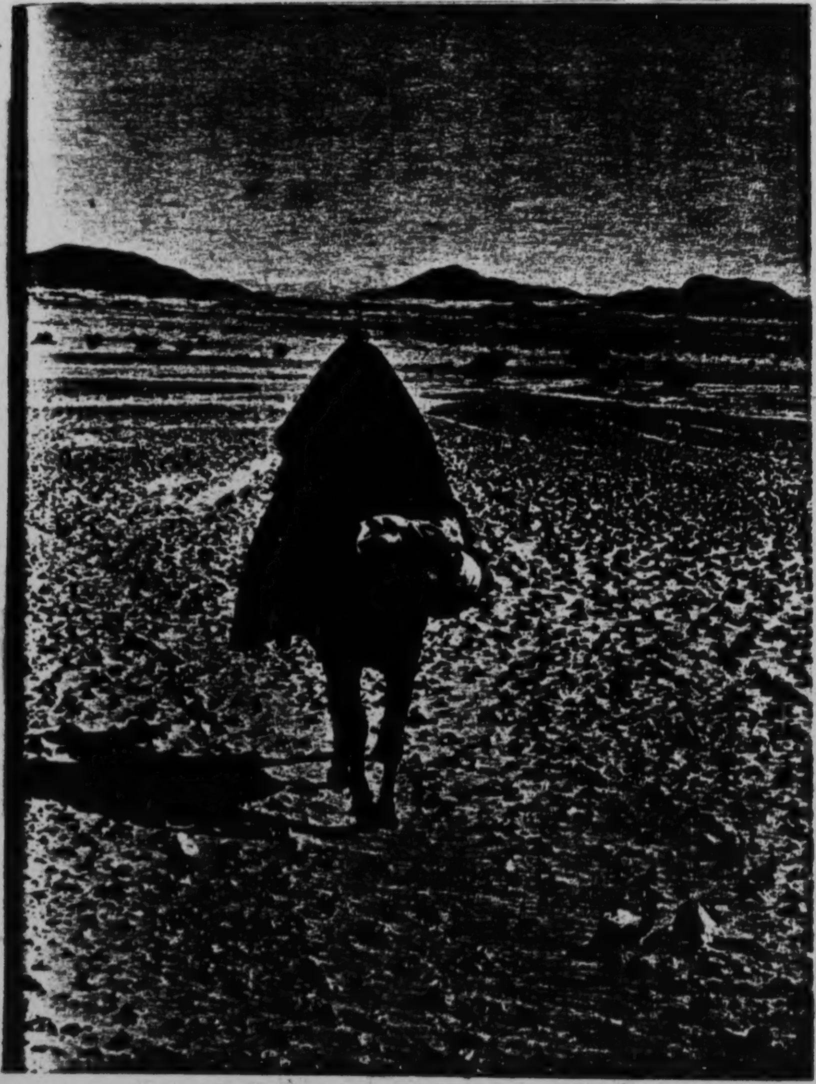


46. The imzaḍ.

[p. 234]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

492

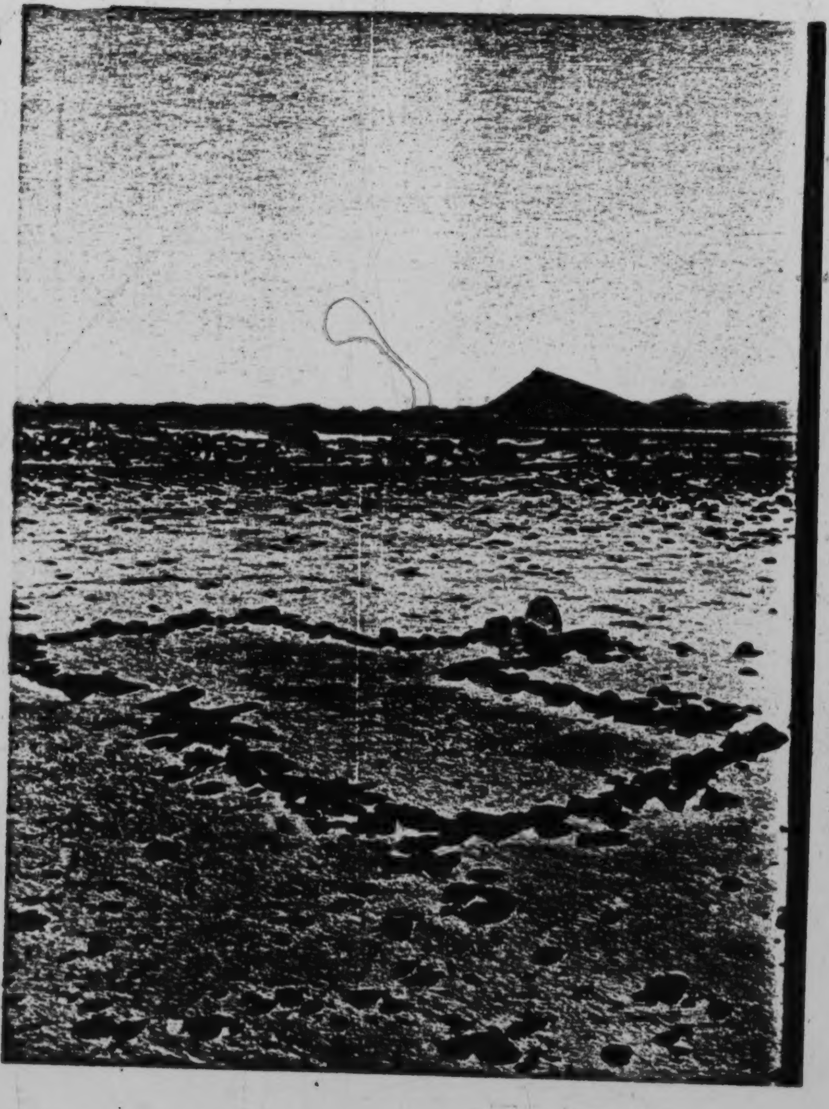


47. Woman leaving for a visit.

[p. 235]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

778



48. A Tuareg mosque.

[p. 236]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

492
516

49. Waiting at a rendezvous.

[p. 237]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

080

50. Negro dance at Tamanrasset.

[p.238]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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252

51. After killing a goat, one blows in the skin to loosen it.

[p.239]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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342

52a. Camp in the morning.

[p. 240] [left - see p. 241]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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[415]

52b.

[p. 247] [Right - see p. 240]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

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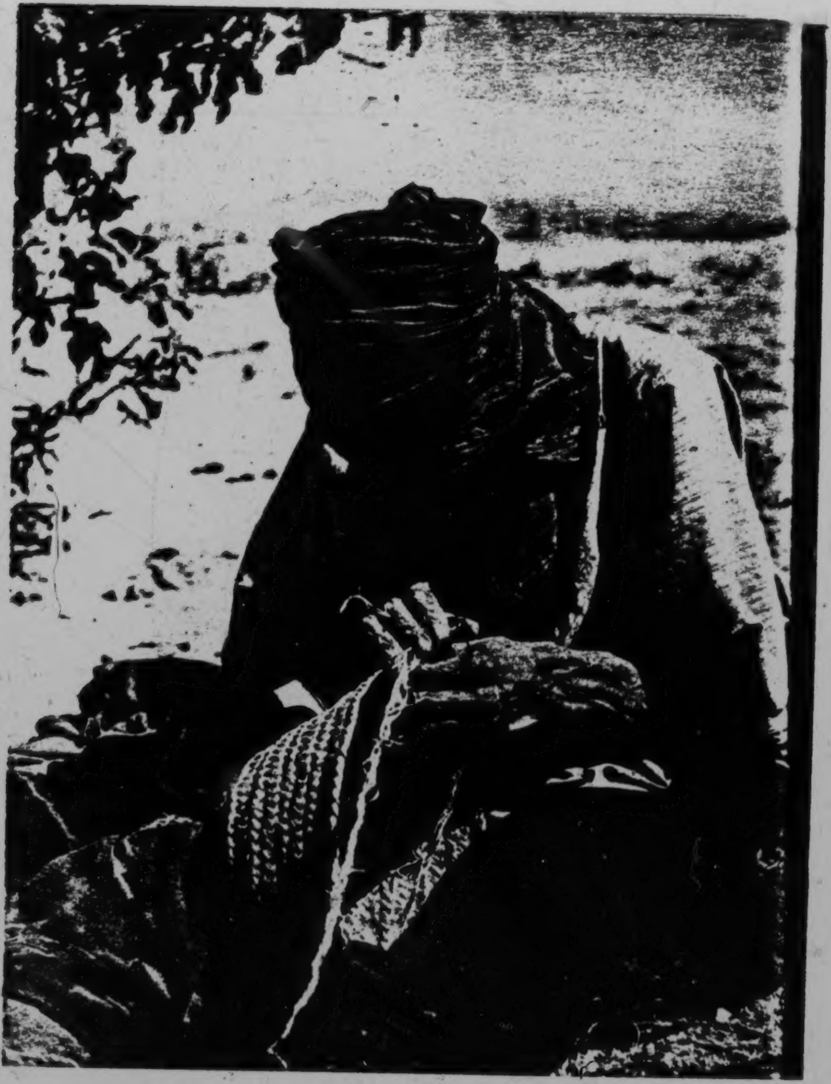

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53. An Ag Adar basket maker.

[p.242]

54. Door of Moussa ag Amastane's house (present abode of the Inaden).

[p. 243]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

872
2.12

55a. Nomadic school in the camp of the amenokal.

[p. 244] [left - see p. 245]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

872
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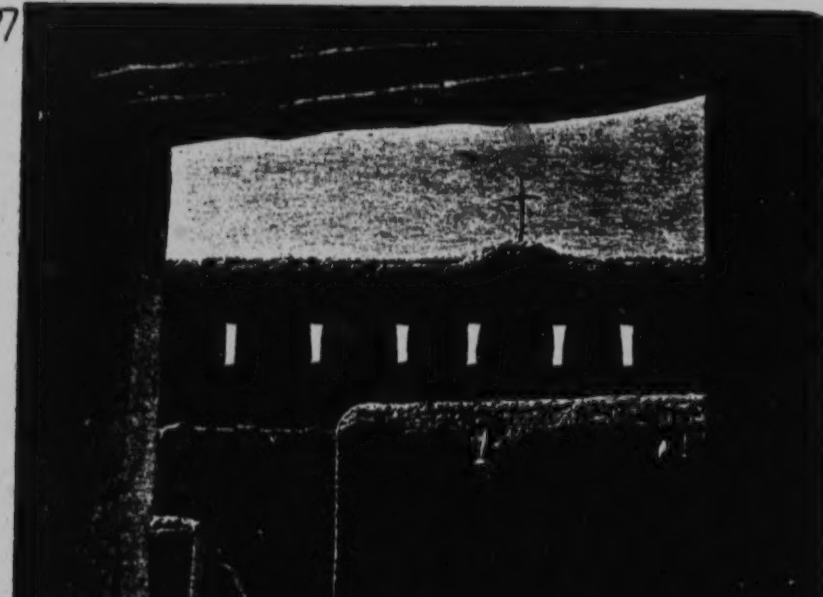
55b. [p. 245] [Right-see p.244]

6:Blanguernon Y-5 (1937-1954) 1955 MS25 Tuareg MS25
Hoggar

797



56. Father de Foucauld's bordj.

[p. 246]